

Downtown Connectivity Study

Richland, Washington

August 2020

Prepared for:

City of Richland, WA

Prepared by:



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Introduction

“The Richland City Council’s Strategic Leadership Plan, updated in 2018, includes six Focus Areas that convey the Council’s vision for the community’s future. Focus Area No. 3 is Increase Economic Vitality. Within this Focus Area is an objective to improve the economic health of the community through targeted investment in Richland’s Waterfront District, specifically by improving streets to enhance walkability in the core downtown area. This follows on a long-term strategy to activate central Richland as a vibrant downtown, leveraging its proximity to the Columbia River waterfront area. The strategy has been expressed in numerous land use planning studies over the past 20 years, development of partnerships, and in a number of financial investments. Among the financial investments have been public acquisition of and improvements to parking lots at the Uptown Shopping Center and at the Parkway District in support of small businesses, marketing and sale of City-owned real estate to mixed use developers, construction of a new City Hall on a portion of an underutilized parking lot, and improvements to John Dam Plaza, a downtown park that hosts numerous community events. The City has partnered with Kadlec Regional Medical Center, Columbia Basin College, and Washington State University – Tri-Cities campus to support central Richland investments and activities.

As the above strategy and actions were taking place the City was cognizant that the character and use of its public streets, especially George Washington Way and Jadwin Avenue, were not aligned with its vision for pedestrian activity and pedestrian-oriented development in central Richland. Incremental steps were taken to address these issues, most recently with the 2019 renovation of Swift Boulevard to reduce vehicle travel lanes, widen sidewalks and add on-street bicycle lanes and parking. Also in 2019 the City Council included in its budget funds to evaluate possible changes to George Washington Way and Jadwin Avenue that would support its Economic Vitality objectives.

The City selected JUB Engineers and its subsidiary The Langdon Group to conduct what became known as the Downtown Connectivity Study. The Study consultant team was tasked with combining a robust public engagement program with rigorous engineering evaluation of street improvement alternatives. Two primary objectives were created to guide the Study: 1) Identify improvements or enhancements that would fulfill the vision for pedestrian friendliness included in the Council’s Strategic Plan; and 2) maintain or enhance the vehicular mobility through central Richland that is needed to support the central Richland and regional economy. This Study was developed to focus on the central City between Bradley Boulevard on the south and Williams Boulevard on the north. Another study, the North-South Travel Capacity Study, was conducted to identify the improvements necessary to support the regional travel patterns through Richland.

The following report documents the Downtown Connectivity Study process by detailing the:

- Public Involvement
- Existing Street System Conditions
- Alternatives Development
- Evaluation of Alternatives
- Public Open House and Survey Responses
- Development of Final Recommendations

At its July 7, 2020 meeting the City Council considered a presentation summarizing the Study and adopted Resolution No. 98-20 approving the Study recommendations. The resolution states that the City will “convert George Washington Way and Jadwin Avenue between Symons Street on the north and

the intersection of George Washington Way and Jadwin Avenue on the south to one-way streets and to implement additional improvements to enhance the comfort and safety of pedestrians and bicyclists, and to provide additional on-street parking as space allows.”

Stakeholder and Public Involvement

This section will discuss the public outreach efforts undertaken as part of this study effort. At the beginning of the study process a Public Involvement Plan was prepared. The first step was to conduct stakeholder interviews. Key components of the Plan were to involve a Community Advisory Committee, hold Business Workshops, and provide input opportunities for the general public through a Public Open House including an on-line survey. Throughout the project, meeting summaries and other project materials were posted on the [project website](#).

Stakeholder Interviews

The Langdon Group, a division of J-U-B, conducted 30 stakeholder interviews in July 2019. Stakeholders, as determined in coordination with the City, represented a range of interests. The assessment did not include every interested party, but did include representation from a diversity of perspectives.

The majority of stakeholders interviewed were highly supportive of an inviting, welcoming downtown core that serves as a destination to draw residents and visitors with improved, non-motorized mobility and connectivity. However, as a whole, stakeholders commented that this vision is in tension with the idea of maintaining or enhancing the current traffic flow on George Washington Way through the study area. Differing opinions were expressed over whether pedestrian improvements should discourage commuter drivers from using George Washington Way. The degree to which stakeholders offered solutions depended on the degree that they believed the congestion on George Washington Way could be decreased through a potential alternative, as well as the outcome of the North-South Transportation Study.

From the interviews alternatives and themes for an inviting downtown emerged, described in the comprehensive summary of the interviews included in Appendix A, which includes agencies and businesses represented, comments and suggestions for consideration in the initial alternatives, safety, economic development, land use, parking, education, case study communities and public messaging channels and communication.

Community Advisory Committee

Following the Stakeholder interviews a Community Advisory Committee (CAC) was formed. The Committee met four times between October 2019 and March 2020. The CAC membership represented a wide range of interests from across Richland (full membership list below). The CAC participation in the study efforts will be discussed throughout this report. A brief summary of their meetings is provided below, with full meeting summaries and meeting materials included in Appendix A.

CAC Meeting #1 – The goal of the study was explained to the group as an effort to determine potential roadway and traffic configurations that would allow increased options to support an inviting downtown with new pedestrian and bicycle infrastructure. It was highlighted that the Study looks to grapple with the reality of the needs of area commuters and the regional economy while also supporting an active, safe downtown.

The group discussed the initial draft alternatives; CAC members provided input on the initial alternatives, brainstormed an additional alternative being a Road Diet, and created draft criteria to evaluate the alternatives.

CAC Meeting #2 – Refined the three draft roadway alternatives for evaluation and finalized the criteria for evaluation of the alternatives. Completed an exercise to weight the criteria. Introduced and discussed potential downtown, pedestrian and bicycle enhancements that could be added to the existing roadway or within the roadway alternatives.

CAC Meeting #3 – Reviewed and discussed the results of the alternative evaluation process and discussed areas for clarification within the evaluation process. CAC decided for consultants to re-evaluate one metric and communicate with the CAC through email. The additional evaluation did not change the ranking of the alternatives with the CAC-derived criteria. The CAC decided through email communication to present the initial draft recommendation of the One Way Couplet Alternative to the public at an open house and in a public survey.

CAC Meeting #4 – Initially, the Study planned three CAC meetings, however due to the feedback received through the open house and survey, the City decided to reconvene the CAC for an additional meeting. This meeting provided an opportunity to share public input received from the open house and survey. Meeting #4 provided an opportunity to share the Extended Couplet Alternative and for the CAC to provide feedback and vote on the Extended Couplet Alternative. CAC members were also able to provide further input on potential street enhancement features selection (further design will be included in future stages after a City Council vote and once grant funding is secured). At this meeting, the CAC voted for the Extended Couplet Alternative to be the draft recommendation to come out of the Study.

CAC Membership and Represented Organizations:

- 20s Plenty
- ADA Committee, City of Richland
- Alliance for a Livable Community
- Bell Furniture
- Ben Franklin Transit
- Bike Tri-Cities
- Boost Build
- Columbia Basin College
- Economic Development Committee, City of Richland
- Emergency Services, City of Richland (Police Department)
- Energy Northwest
- ERA Sun River Realty/ Shareldan Property Management
- Farmers Market
- Kadlec Regional Medical Center
- Pacific Northwest National Laboratory
- Parks and Recreation Commission, City of Richland
- Parkway Business Improvement District
- Planning Commission, City of Richland
- Port of Benton
- Red Lion Richland
- Richland School District
- Sterling's Restaurant
- Tri-Cities Regional Chamber
- Uptown Business Improvement District
- US Dept of Energy - Richland Office

- Youth representative, Parks and Recreation Commission, City of Richland
- Washington State University
- Visit Tri-Cities

Business Workshops

Early in the development of the public involvement plan it was felt important to reach out to all businesses in the central business district to provide an opportunity for them to learn about the study and have input early in the process. Flyers were mailed to all businesses in the CBD with an invitation to one of three workshops that were held in the morning, afternoon and evenings on two different days to allow businesses to attend when convenient for them. They occurred on October 16 – 17, 2019, immediately prior to CAC meeting #2, at which an update was provided to the CAC. A presentation of the purpose of the study, the conceptual alternatives, potential amenities for the downtown including bicycle and pedestrian features (this presentation is included in the meeting materials for CAC meeting #2 in Appendix A) and workshop on issues and concerns and their thoughts on the study.

Open House and Survey

A public open house was held on January 23, 2020 for the general public to learn about the project, the alternatives developed, criteria used to evaluate the alternatives and the results of the alternatives analysis. A survey was also provided and will be discussed later in this report. All of the open house materials and summary of the survey as well as full responses to the survey questions are included in Appendix A.

Adoption Process

A presentation was made to the City of Richland Planning Commission on June 24, 2020 summarizing the key components to the study. The project recommendations were forwarded to the City Council for their consideration. The City Council met on July 7, 2020 to review the study process and recommendations as well and voted unanimously to adopt the findings of the study.

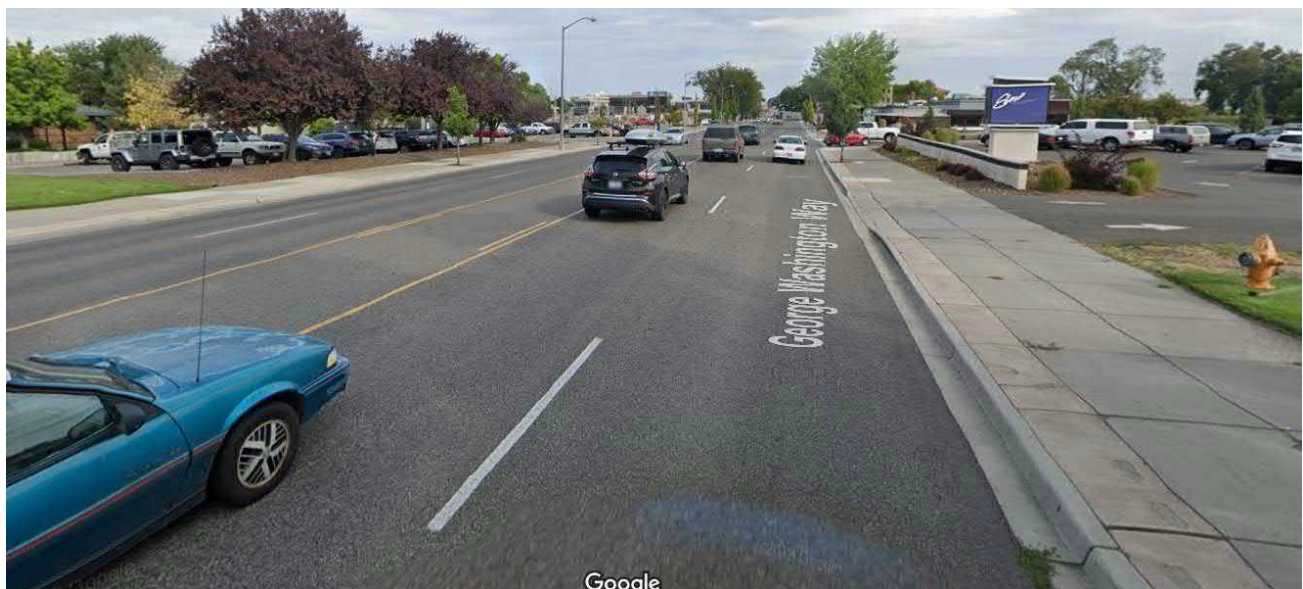
Existing Conditions

This section will document existing conditions with respect to roadway characteristics, traffic volumes, traffic operations, transit, pedestrian and bicycle features in the study area.

Roadway Characteristics

George Washington Way is a north-south principal arterial roadway that extends from I-182/SR 240 on the south several miles to the north, passing through the heart of the City of Richland and providing access to substantial employment to the north at the Science and Technology Park and the Department of Energy Hanford Site. South of the Study area George Washington Way has three through lanes for traffic in each direction and a two-way left turn lane. One northbound lane is dropped at the Jadwin Avenue intersection as a left turn lane, while one lane is added southbound at the same intersection with a southbound right turn from Jadwin Avenue onto George Washington Way. Through the study area the corridor has two travel lanes in each direction plus a center two-way left-turn lane. The speed limit is 35 MPH.

Sidewalks exist throughout the corridor on both sides of the street. Besides the protected pedestrian crossings at the signalized intersections of Jadwin Avenue, Lee Boulevard, Knight Street, Swift Boulevard Williams Boulevard and Symons Street, there are two other marked pedestrian crossings of George Washington Way; one is a block south of Swift Boulevard at Newton Street and the other is about one block south of Williams Boulevard at the Urban Greenbelt Trail.



George Washington Way looking north, south of Swift Boulevard

Jadwin Avenue is a north-south minor arterial roadway that extends from George Washington Way on the south and parallels George Washington Way one block to the west for approximately 1.5 miles then widening the gap between them as it heads to the northwest to connect to the SR 240 Bypass/SR 240 Vantage Highway/Stevens Drive intersection approximately one mile further north. At the south end of the corridor Jadwin Avenue has 3 lanes, one for each direction of travel and an additional lane used for turns in both directions. A fourth lane exists as well that provides a second southbound lane from south

of Swift Boulevard, being dropped at the local connection to another street called Jadwin Avenue. From south of Swift Boulevard to Williams Boulevard there are two lanes in each direction plus a center two-way left-turn lane. The speed limit is 30 MPH.

Sidewalks also exist throughout the corridor on both sides of the street. Besides the protected pedestrian crossings at the same cross-streets as George Washington Way, there are two other marked pedestrian crossings, one north of Knight Street providing access from the Federal Building to the John Dam Plaza and another at Kadlec Way connecting the Urban Greenbelt Trail..



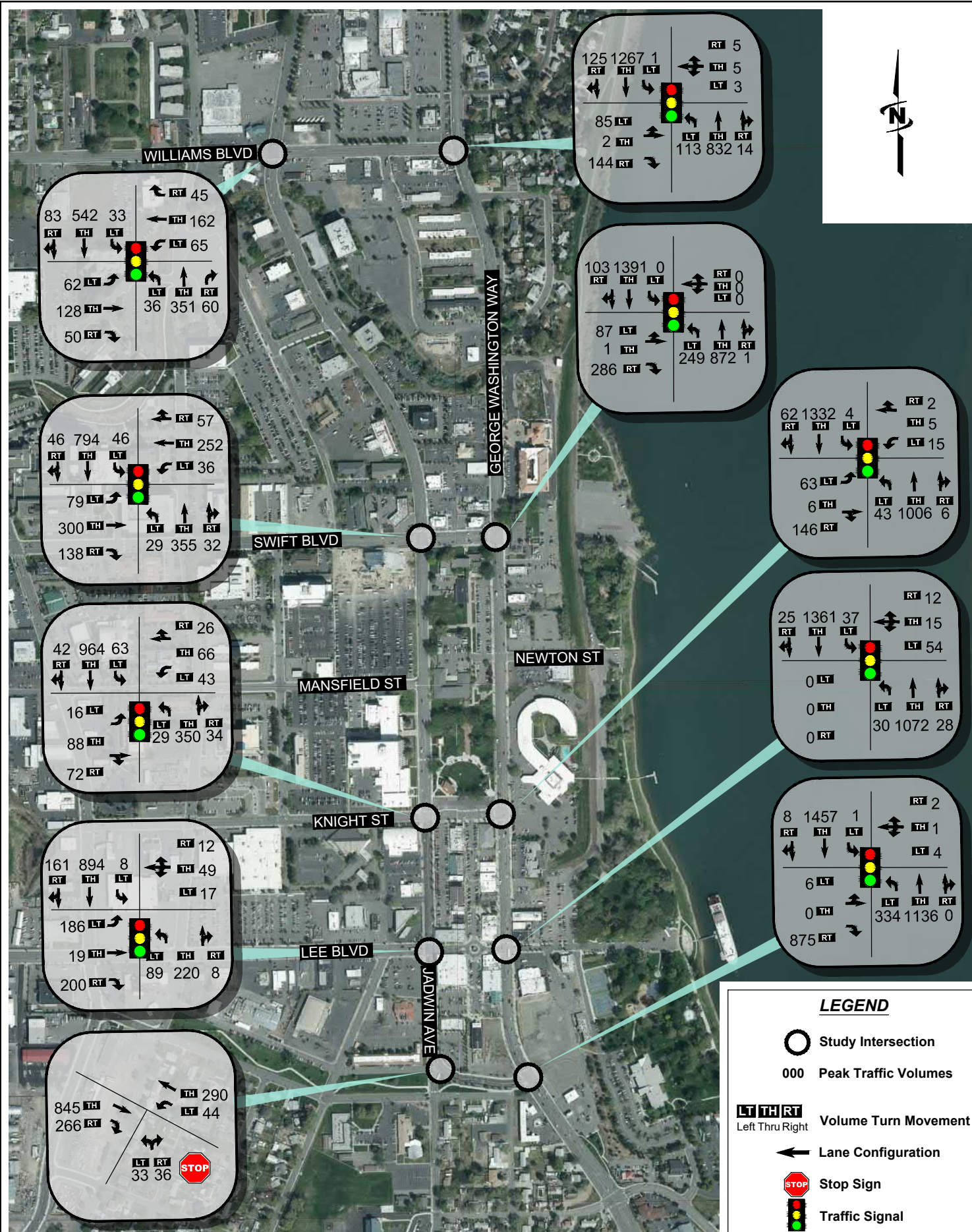
Jadwin Avenue looking north, north of Knight Street

Transit

The Ben Franklin Transit provides fixed route transit service to the Tri-City area. In the study area Route 16 provides service on Swift Boulevard and George Washington Way to the north. Route 120 provides service on Knight Street and Jadwin Avenue to the south while Routes 225 and 268 provide service on Knight Street and George Washington Way to the south.

Traffic Volumes

The City of Richland provided PM peak period traffic counts at several study intersections on George Washington Way and Jadwin Avenue that were collected in May 2019. During the time of data collection roadway modifications were being completed on Swift Boulevard so historical counts were reviewed with the city traffic engineer and adjustments were made to reflect anticipated conditions upon completion of the construction. AM peak period traffic volumes were not collected as part of this study effort since the AM traffic volumes are less than 75% of the PM traffic volumes it was assumed for the purposes of this conceptual study that any street network adjustments that could accommodate PM peak hour traffic would likewise serve the AM traffic volumes. It may be prudent when moving any potential improvements to design to consider AM peak hour volumes, to evaluate queue lengths and need for turn lanes, etc., and perhaps PM forecasting as well depending on how far into the future such effort may be undertaken. The 2019 existing PM peak hour traffic volumes are shown in Figure 1, along with existing lane configurations and traffic control at study intersections. All day traffic volumes on George Washington Way exceed 30,000 while the daily volume on Jadwin Avenue is in the 12,000 – 13,000 range.



Operational Analysis

The analysis of Level-of-Service (LOS) is a means of quantitatively describing the quality of operational conditions of a roadway segment or intersection and the perception by motorists and passengers. Service levels are identified by letter designation, A – F, with LOS “A” representing the best operating conditions and LOS “F” the worst. Each LOS represents a range of operating conditions and one or more measures of effectiveness (MOE’s) are used to quantify the LOS of a roadway element. For intersections the MOE used is average control delay (seconds) per vehicle. While there are several methodologies for estimating the LOS of intersections, the most commonly used is presented in the Highway Capacity Manual and is the methodology used in this study (HCM 2010). The Highway Capacity Manual LOS criteria for unsignalized intersections are summarized in Table 1.

Table 1. Level of Service Criteria for Signalized and Unsignalized Intersections

Level of Service (LOS)	Average Control Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	<=10	<=10
B	>10 - < 20	>10 - < 15
C	>20 - < 35	>15 - < 25
D	>35 - < 55	>25 - < 35
E	>55 - < 80	>35 - < 50
F	>80	>50

Source: *Highway Capacity Manual 6th Edition*, Transportation Research Board, National Research Council, Washington, D.C., 2017.

For unsignalized intersections “delay” is based on the availability of gaps in the major street to allow minor street movements to occur. As traffic volumes increase, the availability of gaps decrease and greater delay tends to result in driver frustration and anxiety, loss of time, unnecessary fuel consumption, and contributes to unnecessary air pollution. The City of Richland standard for Level of Service is LOS “D”, meaning the overall intersection LOS must be “D” or better.

PM Peak hour traffic volumes and existing intersection geometry and traffic control were evaluated to determine the delay and Level of Service at the study intersections. The results of the capacity analysis and intersection delay for existing conditions are shown in Table 2 with LOS worksheet calculations included in Appendix B.

As shown in Table 2 the overall delay and LOS for all study intersections are good with overall Levels of Service “A” or “B”. This is achieved by servicing the substantial traffic volumes in these north-south corridors by setting the traffic signal cycles to accommodate the heavy demand on the major streets while forcing side streets to wait longer times as evidenced by the columns of the tables that show the worst approach at several intersections occurring on the east-west side street with approximately 30 seconds more delay than the overall intersection.

One challenge is that the substantial traffic volumes on north-south roadways creates a barrier for east-west pedestrian travel from the downtown area to businesses east of George Washington Way and the waterfront.

Table 2. Summary of Existing PM Peak Hour Intersection Delay (sec) and Level of Service

Intersection	Jadwin Avenue		George Washington Way	
	Overall Intersection	Worst Movement	Overall Intersection	Worst Movement
Williams Boulevard	13/B	41/D --WB	12/B	23/C—EB
Swift Boulevard	14/B	22/C—EB	13/B	38/D--EB
Knight Street	10/A	42/D—WB	6/A	33/C—WB
Lee Boulevard	11/BC	32/C--WB	5/A	33/C--WB
Jadwin Avenue	--	--	7/A	32/C—Wb

LEGEND

22.8/C Delay in average seconds per vehicle/Level of Service

NB = northbound, SB = southbound, WB = westbound, EB = eastbound

Development of Alternatives

This section will discuss the alternatives that were developed for consideration by the Community Advisory Committee (CAC) for evaluation, public review and comment.

The consultant team reviewed previous studies and researched other amenities and enhancements that could help make the downtown area more accessible to non-motorized travel and create a more inviting area for businesses and public interaction. Alternatives and amenities were discussed extensively with the CAC at their first two meetings with additional discussion at the last two meetings.

As mentioned earlier, one of the goals of the study was to determine if potential roadway and traffic configurations could allow increased options to support an inviting downtown with new pedestrian and bicycle infrastructure, and to address barriers to east-west movement within downtown. One of the perceived advantages of street modifications is that if traffic can be served with improved routing or efficiencies, then space currently used to serve motorized traffic could be used to serve alternative modes of traffic without disrupting existing businesses in these corridors.

This endeavor will be a challenge given the high demand for north-south travel, the limited options for north-south travel and that the demand for travel on George Washington Way is not likely to go down. There is a perception that a significant amount of traffic from employment areas to the north is cut-through traffic and should be on the SR 240 Bypass. The City also conducted a Regional North-South Travel Capacity Study that determined that regardless of improvements to the SR 240 Bypass congestion on George Washington Way will persist. This suggests that although there is some level of traffic demand that uses George Washington Way as a commuter route, there is substantial traffic that either begins north of downtown that has a destination in the corridor or in central Richland, or starts downtown or in central Richland and has a destination to the south.

The result of CAC discussion regarding the alternatives to move forward for evaluation and for public review was to consider four alternatives, including the No-Build for comparative purposes, as presented below. Summaries of the discussion are included in Appendix A

Description of the Alternatives

A description of the key components of each of the four alternatives is provided below. Graphics of these alternatives, except for the No-Build, are shown in the following Figures 2-4.

Alternative A: No-Build

This alternative would involve no changes to the roadway network as it now stands, but could incorporate enhancements and other amenities for bicycle and pedestrian movement and to make the downtown more inviting. These potential features are discussed in more detail below.

Alternative B: One-Way Couplet

The One-Way Couplet Alternative would convert George Washington Way to northbound traffic only and Jadwin Avenue to southbound traffic only between the intersection of these two roadways on the south and Williams Boulevard on the north. A new connection for southbound traffic would occur south of Williams Boulevard to create a smoother transition. Existing Jadwin Avenue south of Williams Boulevard would be maintained to the new connection. This concept is shown in Figure 2.

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CENTRAL RICHLAND STUDY

ALTERNATIVE B: ONE WAY COUPLET

FIGURE

2

The main advantages of this alternative would be to serve the existing traffic volumes with fewer lanes on each roadway, thus reducing the need for the existing five lanes down to three. The efficiencies gained from traffic signal operations by removing conflicting movements from the intersections and being able to increase the “green time” for north-south movements is anticipated to serve traffic more effectively while reducing the number of lanes of traffic that east-west pedestrians must cross. Meanwhile the reduced lanes for traffic creates space that can be used for other purposes such as bike lanes, wider sidewalks, landscaping or parking, etc. Reduced vehicular and pedestrian conflicts (no southbound through movements to conflict with northbound left turns) are also a safety benefit.

Some perceived disadvantages include that changes such as these are sometimes challenging for travelers and businesses to adjust to. Also, with reduced vehicular conflicts travelers may feel that they can drive at increased speeds.

Alternative C: Jadwin Alternative

This alternative would promote Jadwin Avenue as the principal arterial and convert George Washington Way to a local street. It would reconstruct the existing intersection of George Washington Way/Jadwin Avenue such that the northbound through movement would take traffic to Jadwin Avenue (while access to George Washington Way would become a right turn). Similar to the One-Way Couplet Alternative, there would be a new connection constructed south of Williams Boulevard to take the main traffic flow of George Washington Way traffic to the Jadwin Avenue Alignment. At Williams Boulevard George Washington Way would not connect on the south side, rather the connection would be provided at Guyer Avenue. George Washington Way would be a two-lane road with Jadwin Avenue widened to accommodate traffic forecasts, likely a seven lane cross-section including a two-way left-turn lane. This concept is shown in Figure 3.

The main advantages of this alternative are that it creates significant space within the George Washington Way corridor to repurpose for bicycle, pedestrian and business activities and changes the character of George Washington Way. It also makes the waterfront more accessible from these businesses by significantly reducing the traffic volume on George Washington Way and minimizing the barrier that pedestrians face that wish to cross it from the west.

Some perceived disadvantages include that the widening of Jadwin Avenue would have property impacts and cause an even bigger barrier to east-west bike/ped traffic than exists today. It would also create a bigger separation between available downtown parking west of Jadwin Avenue and attractions to the east of Jadwin Avenue.

Alternative D: Road Diet

This alternative, as suggested for inclusion in the study by the CAC, would reduce the number of lanes on both George Washington Way and Jadwin Avenue to three, one through lane in each direction and a two-way left-turn lane. Both roadways would remain on their current alignment as shown in Figure 4.

The main advantage of this alternative is that it would increase the space available for enhancing bicycle and pedestrian movement. It would also reduce the number of lanes of traffic that east-west pedestrians must cross. It is also hoped that it would reduce traffic volumes by traffic without an origin or destination in the downtown area.

A perceived disadvantage of the Road Diet Alternative is that if traffic patterns continue there could be significant congestion in the downtown area if travel lanes were removed.

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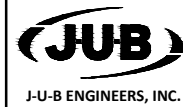


CENTRAL RICHLAND STUDY

ALTERNATIVE C: JADWIN

FIGURE

3



CENTRAL RICHLAND STUDY

ALTERNATIVE D: ROADWAY DIET

FIGURE

4

Enhancements

Each roadway alternative provides a different amount of space, or opportunity within the existing curb to curb roadway, to implement potential downtown, pedestrian and bicycle enhancements. The approach of this Study is to evaluate the four alternatives and once a draft recommended alternative is selected, add the enhancements recommended by the CAC and preferred by the public. It is recognized that detailed design will reengage the topic of design features, so this study does not present final determinations for these features.. The City will undertake further processes once at a design stage. Incremental successes of the City in revitalizing the downtown help to illustrate this process -- examples include The Parkway and John Dam Plaza.

The potential enhancements included:

- Improved pedestrian crossings (flashing crosswalks, wider crosswalks, sidewalk buffer)
- Bikes lanes with buffer (barriers of landscaping, on-street parking or physical space)
- Pedestrian islands
- Bulb-outs (curb extensions at an intersection)
- Grass strips (buffer between sidewalks and cars)
- Narrowed Lanes
- Reduced speed limits
- Raised speed hump crosswalks (only possible on G Way within the Jadwin option)
- Additional mid-block crossings
- Distinct curb
- Increased trees/shade
- Increased lighting
- Sidewalk furniture and street art
- Wayfinding (maps and signage showing public parking, bike routes and pathways, bus routes/stops, restaurants, downtown attractions, etc.)
- Sidewalk patios
- On-street parking (parallel and diagonal)

Many of these potential enhancements with graphical representations were presented at CAC Meeting#2 and are included with the materials in Appendix A.

The CAC was surveyed on their preferences with respect to several of these features and survey questions were also prepared for the general public with respect to downtown features, pedestrian crossing features, sidewalk features and bike lane features.

One discussion that occurred at a CAC meeting centered around the potential use of technology to adapt to congestion and the integration of new transportation technology, such as electronic scooters. Project team members stated that these suggestions will be included in the final report as items for further consideration at the design phase.



Evaluation of Alternatives

This section will summarize the identification of evaluation criteria used to rank the four alternatives considered, and the process used to assign a weight to each criterion. The evaluation of each alternative against the various criteria are also discussed, with the final score assigned and summarized as well.

Establishment of Evaluation Criteria

The consultant team led a discussion with the CAC regarding potential evaluation criteria that could be used to select a preferred alternative at their first meeting. At the second meeting specific criteria were selected and refined based on the earlier discussion. Several potential criteria were considered and discussed and the CAC agreed on eight criteria with which to rank the alternatives in the consideration of the pros and cons of each. The need to weight the criteria was also discussed, as most CAC members felt more strongly about some of the criteria than they did about others.

At the second CAC meeting a table with the criteria was provided to each member with instructions to complete a Pairwise Comparison process that would establish a weighting for each criteria to be applied during the scoring process. Through the Pairwise Comparison each criterion is compared individually against each other criterion; the more important criterion, from that person or agency's perspective, is chosen and then the relative importance - much more important, more important or slightly more important - indicated. Each level of importance was given a value 3, 2 or 1.

All scores for each criterion were summed from each participant to represent an overall weight for the CAC. A higher weight indicates a higher importance resulted from the committee's aggregated weighting exercise. Table 3 summarizes the evaluation criteria, provides definitions and their weight in order of relative importance.

Table 3. Final Evaluation Criteria and Weighting

Criteria	Definition	Weight
Safety	Allows for the safe movement of people in all forms (automobiles, bicycle, pedestrian, transit, disability aid) considering conflict points.	10
Improves Appeal	Attracts visitors, new residents and businesses to the downtown and the adjacent waterfront in support of tourism, small businesses, and residents' experience in the urban environment with natural features (Columbia River).	8
Mobility and Connectivity for Alternate Modes	Focus on moving "people" in all forms (bicycle, pedestrian, disabled, transit, etc.), in all directions, in support of the economic vitality, healthy living and healthy environment, considering the context of the environment, specifically the ability for residents to safely connect on foot or with disability aid from nearby neighborhoods to the downtown and from downtown to the waterfront.	8
Property Acquisition Impacts	Number of properties fully and/or partially acquired.	5
Cost	Easier to implement considering right-of-way, engineering and construction of roadway changes.	4
Move Traffic/ Reduce Commute Time	Accommodates the efficient movement of north-south automobile traffic through Richland.	4
Construction Impacts	Severity of inconvenienced activities during construction.	4
Parking	Provides opportunity for additional on-street parking and wayfinding signs to existing available parking lots.	3

The consultant team prepared an evaluation for each criterion assessing the four alternatives. The details and results were reviewed with the CAC with modifications being made based upon CAC input to improve clarity and consistency. The results of the evaluation are discussed below.

In order to perform the evaluation for two of the criteria (Safety and Moves Traffic/Reduces Commute Time), traffic forecasts were required. Important for the evaluation of the alternatives is the forecasting of traffic volumes which is typically done for a 20 year horizon. This is important to ensure that proposed changes will accommodate future traffic demand. A brief discussion is provided here regarding traffic forecasting for the four alternatives. The traffic volumes for each of the alternatives are graphically represented included in Appendix C.

No-Build Scenario – A review of past studies, historical traffic counts and forecasts from the regional traffic model indicated that a reasonable growth rate for this portion of the region for a 2040 forecast is 1% per year. An overall growth of slightly over 20% may seem quite modest, but the resulting traffic growth is substantial, and given current traffic operations south of the study area on George Washington Way, it is unlikely that this facility could carry much more traffic during the peak hour. Although there may be more future traffic volume demand, in practice some future volumes would likely shift their time of travel (creating a longer peak "hour") or travel mode such that the actual volumes will approach a one percent per year overall growth during the PM peak hour. This growth rate was applied to all movements at study intersections.

One-Way Couplet Alternative - Once traffic volumes for the 2040 No-Build Alternative were complete, a rerouting of traffic for the couplet was prepared to represent year 2040 PM peak hour traffic volumes for this scenario.. All southbound traffic would be on Jadwin Avenue and all northbound traffic would be on George Washington Way. Several movements would no longer be allowed, such as the eastbound right turns and westbound left turns to go southbound on George Washington Way, and similarly westbound right turns and eastbound left turns to go north on Jadwin Avenue. An effort was made to reasonably reroute all these traffic volumes to reach their original desired route. For example, besides the most obvious reroutes of through traffic north and south, the most significant affected movement is the northbound left turn from George Washington Way to Jadwin Avenue consisting of over 300 vehicles. These vehicles would clearly continue north on George Washington Way and turn left from that corridor elsewhere. However, in the rerouting process it was assumed that not all of these left turns would occur at the next possible intersection, rather they were spread out proportionately consistent with the Jadwin Avenue corridor northbound left turns. Similarly, southbound right turns from George Washington Way were assumed to make southbound turns from Jadwin Avenue. A worksheet describing these changes is included in Appendix C.

Jadwin Alternative - An estimate of the number of trips with a destination in the George Washington Way corridor for year 2040 was made based on turn movements at the intersections in the No-Build Scenario, resulting in approximately 550 trips in each direction north-south. All through trips were moved to Jadwin Avenue. Similar adjustments to some of the turns were made as were made with the One Way Couplet Alternative.

Road Diet Alternative – Traffic PM peak hour volumes for this alternative and the traffic operations analysis were the same as those developed for the No-Build Alternative for year 2040. The only difference was that for the traffic operations analysis the number of thru lanes in each direction on both north south streets was reduced to a single lane, with a two-way left turn lane.

Safety

For the purposes of comparing the relative safety merits or potential safety issues of each of the alternatives against each other and against the No-Build scenario, it was felt that a comparison of the magnitude of left turn volume conflicting with through volume at each of the study intersections would be valuable. This conflict is more likely to lead to greater severity of crashes resulting in injury or fatality. The traffic volume for each of the left turn movements was multiplied by the conflicting through movement and summed up for all intersections for each alternative. The total number of left/through conflicts for each alternative are shown in Table 4.

Other safety aspects of the roadway network that were considered important from a safety standpoint included the speed limit on each roadway and the number of lanes. Higher speeds would likely cause collisions to be have more injuries, and narrower streets would be safer for pedestrians to cross. Also, the provision of bike lanes would create safer places for bicyclists to travel. The results of safety scoring are in Table 4.

Table 4. Safety Analysis and Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Thru/Left Turn Vehicular Conflicts	2,041,505	594,925	2,260,275	2,041,505
Percentage of Highest # of Conflicts	90%	26%	100%	90%
Vehicle Conflicts Score (up to 4)	0.5	4.0	0.0	0.5
George Washington Way characteristics	5 lanes, 35 MPH	3 lanes, 30 MPH	2 lanes 25 MPH	3 lanes, 30 MPH
George Washington Way pedestrian crossing score (up to 2 points)	0.0	1.0	2.0	1.0
Jadwin Characteristics	5 lanes, 30 MPH	3 lanes, 30 MPH	7 lanes 30 MPH	3 lanes, 30 MPH
Jadwin Avenue pedestrian crossings score (up to 2 points)	0.0	1.0	0.0	1.5
Bike lane characteristics	no bike lanes	4 bike lanes	2 bike lanes	4 bike lanes
Bicycle Lanes score (up to 2 points)	0.0	2.0	1.0	2.0
TOTAL SCORE	0.5	8.0	3.0	5.0

Notes:

Vehicle Conflict Score is up to 4 points assigned with straightline interpolation between lowest and highest number of combined through and left turning vehicular conflicts.

For Pedestrian Crossing Score subtract 0.5 points for each 5 MPH above 25, and subtract 0.5 points for each additional lane to cross above 2 lanes.

Mid-block pedestrian refuge islands would be incorporated in Jadwin corridor where practical. Similar treatment on George Washington Way will be challenging because of the density of driveways.

Other criterion accounts for traffic impacts outside study area and non-traditional free left turns.

Improves Appeal

One of the means to improve the appeal of the downtown area is to incorporate the provisions for bicyclists and pedestrians as discussed earlier in this report. It was determined that the most meaningful way to measure this was by calculating the potential area gained between the existing curb-to-curb width of the roadway that could be used for potential alternate modes. This was done by determining the width needed for each road under the assumptions of each alternative and subtracting that from the existing width and multiplying by the length of the corridor.

Points for each alternative were also assigned based on whether there would be changes in travel patterns since it is anticipated that some members of the community would perceive that as a negative feature.

A third consideration was how well the alternative would serve forecasted traffic volumes. If congestion is more pronounced that was identified as less appealing.

A summary of the scoring for Improves Appeal is included in Table 5.

Mobility and Connectivity for Alternate Modes

In evaluating the pros and cons that would contribute to mobility for alternate modes of travel, the following things were considered:

- potential number of bike lanes
- potential for additional mid-block crossings
- potential for pedestrian refuge
- potential for bulb-outs at intersections (bulb out = extension of curb at intersection)
- potential for wider sidewalks.

A summary of the scoring for this criterion is included in Table 6.

Property Acquisition Impacts

The discussion with the CAC identified various property impacts to businesses, some of which were the result of losing business during construction time. This is discussed later. This particular criterion focuses on the actual property impacts associated with each alternative. Using the conceptual designs prepared for each alternative the number of full parcels impacted and the number of partial parcels impacted were identified. It was assumed for the purposes of this study that any building that was impacted would result in a full parcel acquisition. The number of properties and scoring of this alternative is included in Table 7.

Cost

Given the fact that detailed design has not been undertaken, and many details are as yet unknown, a low and high range of construction costs were prepared using the conceptual designs prepared for each alternative. It is unknown as of yet whether curbs would be retained or relocated on both sides of the street. An assumption for an amount to be spent on amenities such as wayfinding, landscaping etc. was also incorporated. Right-of-Way acquisition cost was also estimated to arrive at a total average cost for each alternative. The results of the high and low costs as well as right-of-way are included along with the scoring in Table 8. Cost estimates are included in Appendix D.

Table 5. Improves Appeal Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Area gained for potential alternate modes	-	147,000	115,800	147,000
Points for Area Gained (6 pts)	0.0	6.0	4.7	6.0
Change in Travel Patterns (2 pts)	2	0	1	2
Congestion (2 pts)	2.0	1.5	2.0	0.0
TOTAL SCORE	4.0	7.5	7.7	8.0

Notes:

Area gained points assigned up to 6 points based on straightline interpolation of highest area gained to lowest area gained.

Appeal of Parking accounted for in other criteria.

Table 6. Mobility and Connectivity for Alternate Modes Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Potential Number of Bike Lanes (4 Points)	0	4	2	4
Potential for additional mid-block crossings (1.5 Points)	1.5	1.5	1.5	1.5
Potential for pedestrian Refuge (1.5 points)	1.5	0.0	1.5	1.5
Potential for bulb-outs at Intersections (1.5 points)	0.0	1.5	1.0	1.5
Potential for Wider Sidewalks (1.5 points)	0.0	1.5	1.5	1.5
TOTAL SCORE	3.0	8.5	7.5	10.0

Notes:

Relative scoring between all alternatives, greatest benefit received highest score, least benefit received lowest score.

Table 7. Property Acquisition and Impacts Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Number of full parcels impacted	0.0	4.0	13.0	0.0
Number of partial parcels impacted	0.0	6.0	12.0	0.0
TOTAL SCORE	10.0	6.5	0.5	10.0

Notes:

Subtract 0.5 points for each full parcel acquisition requiring relocation.

Subtract 0.25 points for each partial parcel acquisition.

Table 8. Summary of Cost and Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Low Range Construction Cost	\$ 500,000	\$ 6,900,000	\$ 11,600,000	\$ 2,200,000
High Range Construction Cost	\$ 1,000,000	\$ 12,900,000	\$ 14,600,000	\$ 7,200,000
Right-of-Way Acquisition Cost	\$ -	\$ 4,100,000	\$ 12,400,000	\$ -
Average Total Cost	\$ 750,000	\$ 14,000,000	\$ 25,500,000	\$ 4,700,000
TOTAL SCORE	10.0	4.6	0.0	8.4

Notes:

Construction Cost includes Preliminary Engineering, Construction and Construction Engineering.

A range of costs was prepared with the average cost being used for scoring purposes.

Points assigned based on straightline interpolation between highest and lowest cost.

Move Traffic/Reduce Commute Time

Traffic volumes prepared for each scenario representing year 2040 were evaluated for delay and Level of Service at study intersections. The results of this analysis are included in Appendix C.

It was determined that an appropriate means of scoring alternatives with respect to their ability to move traffic was to compare the Level of Service (LOS) at intersections to the City standard of LOS “D”. Any intersection falling below that at LOS “E” or “F” would receive fewer points. Likewise any individual traffic movements at study intersections would also receive fewer points. The results of this analysis are shown in Table 9.

Construction Impacts

Given the nature of the alternatives developed, the largest impacts to businesses during construction would be at the endpoints. Although perhaps a bit less objective, scores were assigned to each of the corridors based on their likely construction impacts to business for each of the alternatives as well. Those that were felt to have more impacts received fewer points. Table 10 summarizes the anticipated level of construction impacts for each of the alternatives and the scores assigned.

Parking

Two key features of the alternatives provided a meaningful way to compare the benefits of each alternative with respect to providing on-street parking. These included the linear feet gained for potential parking, meaning existing lanes currently being used for traffic flow could be converted to on-street parking. And second, the traffic influence on parking and the ability of traffic to go around a vehicle in the process of parking, which considers speed, traffic volume, the availability of an adjacent lane for traffic to move into if someone is parking. These two criteria were applied to each corridor. Parking scores are shown in Table 11.

Consolidated Scoring Summary of Alternatives

The scores for the eight criteria for each of the four alternatives were multiplied by the relative weighting as determined by the CAC to arrive at a final score for the alternatives as shown in Table 12.

The evaluation was reviewed with the CAC and some adjustments were made to more accurately reflect comments made and observations of the scoring. Members stated that overall they were comfortable with the process and feel that the project team executed a transparent structure for the CAC.

It was noted that the score for the Road Diet Alternative was very close to the One-Way Couplet Alternative and that it accomplished many of the objectives of the study. There was, however, a fatal flaw identified in that it did not meet one of the study objectives of maintaining or enhancing the vehicular travel flow through downtown, in that it provided failing levels of service on George Washington Way.

An examination of Table 12 shows the One-Way Couplet scored highest. The CAC agreed this alternative should go forward to the public as the recommended alternative for their review and feedback.

The advantages of the One-Way Couplet identified through this study are that it is safer for cars in that it has fewer vehicle conflicts, it is safer for bicycles because it provides a separate facility, it is safer for pedestrians because it has fewer lanes to cross east-west, it has higher vehicular capacity because of more efficient traffic signal operations, and there is extra space for parking and wider sidewalks.

Table 9. Moves Traffic/Reduces Commute Time Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Intersections with LOS E or F	0	1	0	7
Movements with LOS E or F	4	6	5	26
TOTAL SCORE	9.0	7.5	8.8	0.0

Notes:

Subtract 1 point for each intersection below LOS D.

Subtract 1/4 point for each movement below LOS D.

G Way/Williams Overall	B	C	D	B
G-Way/Williams movements	ok	ok	1 F	1 E
G-Way/Swift Overall	B	A	A	F
G-Way/Swift Movements	ok	ok	ok	4 Fs
G-Way/Knight Overall	A	A	A	F
G-Way/Knight Movements	ok	ok	ok	2 Es, 2 Fs
G-Way/Lee Overall	A	A	A	F
G-Way/Lee Movements	ok	ok	ok	3 Es, 1 F
G-Way/Jadwin Overall	B	D	C	F
G-Way/Jadwin Movements	1 E	ok	ok	2 Es, 2 Fs
Jadwin/Williams Overall	B	C	B	B
Jadwin/Williams movements	1 F	ok	ok	ok
Jadwin/Jadwin (new North) Overall	N/A	D	D	N/A
		ok	1 E	
Jadwin/Swift Overall	B	D	C	E
Jadwin/Swift Movements	ok	ok	1 E	3 Es
Jadwin/Knight Overall	B	E	B	E
Jadwin/Knight Movements	1 F	2 Es, 2 Fs	2 Es	1 E, 2 Fs
Jadwin/Lee Overall	C	C	C	E
Jadwin/Lee Movements	1 E	2 Es	ok	1 E, 2 Fs

Table 10. Construction Impacts Score

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
End Point Treatments (4 points)	4.0	1.0	0.0	4.0
George Washington Way (3 points)	3.0	1.0	1.0	1.0
Jadwin Ave (3 points)	3.0	1.0	0.0	1.0
TOTAL SCORE	10.0	3.0	1.0	6.0

Up to 4 points for End Point Treatments depending on the magnitude of likely impacts. Relative scoring between all alternatives, most impacts received lowest score, least impacts received highest score.

Up to 3 points for George Washington Way and Jadwin Avenue corridor impacts depending on the magnitude of likely impacts. Relative scoring between all alternatives, greatest impacts received lowest score, least impacts received highest score.

Table 11. Parking Scores

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Linear feet gained for potential parking, GW Way	0	14,400	12,000	14,400
Score for potential parking on GW Way (3 points)	0.0	3.0	2.5	3.0
Traffic Influence GW Way	N/A	medium volume/ medium speed	low volume/ low speed	high volume/ medium speed
Score for Traffic Influence on GW Way (2 points)	0	1	2	0.5
Linear feet gained for potential parking, Jadwin	0	12,000	0	12,000
Score for potential parking on Jadwin (3 points)	0.0	3.0	0.0	3.0
Traffic Influence, Jadwin	N/A	medium volume/ medium speed	N/A	high volume/ medium speed
Score for Traffic Influence on Jadwin (2 points)	0	1	0	0.5
TOTAL SCORE	0.0	8.0	4.5	7.0

Notes:

Points for linear feet gained assigned based on straightline interpolation between highest and lowest length by corridor.

Traffic influence considers speed and lane utilization (ability of traffic to go around a vehicle in process of parking).

Table 12. Alternative Evaluation Scoring Results

Criterion	Criteria Weight	Alternative							
		A		B		C		D	
		No-Build		Couplet		Jadwin		Road Diet	
		Raw	Wt.	Raw	Wt.	Raw	Wt.	Raw	Wt.
Safety	10	0.5	5.0	8.0	80.0	3.0	30.0	5.0	50.0
Improves Appeal	8	4.0	32.0	7.5	60.0	7.7	61.6	8.0	64.0
Mobility and Connectivity for Alternate Modes	8	3.0	24.0	8.5	68.0	7.5	60.0	10.0	80.0
Property Acquisition	5	10.0	50.0	6.5	32.5	0.5	2.5	10.0	50.0
Cost	4	10.0	40.0	4.6	18.4	0.0	0.0	8.4	33.6
Move Traffic/Reduce Commute Time	4	9.0	36.0	7.5	30.0	8.8	35.0	0.0	0*
Construction Impacts	4	10.0	40.0	3.0	12.0	1.0	4.0	6.0	24.0
Parking	3	0.0	0.0	8.0	24.0	4.5	13.5	7.0	21.0
TOTAL SCORE		47	227	54	325	33	207	54	323
ALTERNATIVE RANK			4		1		3		2

* Note: The Road Diet Scores 0 under the Moves Traffic/Reduce Commute Time due to the failure of 7 intersections that do not meet the Level of Service Standard. This is a fatal flaw of this alternative which goes against one of the main objectives of the study which was to "advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown". As much as the Road Diet would advance many of the desired bicycle and pedestrian mobility aspects of the study, that alternative can not be recommended.

Public Open House

As mentioned earlier, a public open house was held January 23, 2020 at Richland City Hall. Multiple display boards, included in Appendix A, were prepared to help the public to learn about the purpose of project, the alternatives developed, the evaluation criteria and results of the alternatives analysis.

In addition, a large 8' long by 3' tall exhibit was prepared that showed details of the preferred One-Way Couplet Alternative. This Exhibit is shown in reduced size in Figure 5. It was prepared in an effort to help the public envision the types of improvements that might be undertaken and how the roadway network might function. It was emphasized that the exhibit was not ready for design but was illustrative of one method that a couplet could be implemented. Also, one purpose of the meeting was to get feedback on the preferred alternative and what issues or concerns people might have with the concept and whether it should be pursued. A video simulation of traffic operations of the corridor was also prepared and was actively running during the meeting.

There were 81 people that signed in at the open house, with 33 comment sheets completed at the meeting.

A summary of the public survey follows below as well a summary of written comments received that were grouped into several themes. Copies of the detailed survey responses by theme, as well as crosstabs of some questions, are included in Appendix A.

Public Survey

Concurrent with the Public Open House the City made an on-line survey available from the project web site. The survey sought reaction to the preferred alternative and input on available enhancement features. Over a two-week period 1,155 survey responses were completed. Of two open ended questions there were over 650 responses to each, with a total of 1342 written comments (including comment sheets completed at the meeting).

There were 13 questions presented to the public through the on-line survey. Question 6 and 12 allowed for written responses and are summarized in the next section. Question 13 provided a place where an e-mail could be supplied if the responded wished to receive study updates.

Questions 7-11 were visual preference questions and included images of the choices within each question. The Couplet, Road Diet and George Washington Way under the Jadwin Alternative would each result in differing amounts of additional curb to curb road space that can repurposed for potential new downtown, pedestrian and bicycle amenities, and would allow for some of the amenities presented.

It is important to note the results of Question indicate that although there is considerable interest in improved accessibility by alternative modes of transportation, efficient vehicle travel was the highest ranked priority by the general public, with pedestrian safety/comfort as the next highest priority. It is also important to note the responses to Question 7 regarding the preferences for downtown features that align well with the purpose of this study.

Question 5 asked if respondents could support the work of the consultant team and the CAC that identified the One-Way Couplet as the best alternative to meet the dual objectives of improving pedestrian and bicycle accessibility and sustaining vehicular traffic flow. There were 44% of respondents

ONE-WAY COUPLET ALTERNATIVE DETAIL

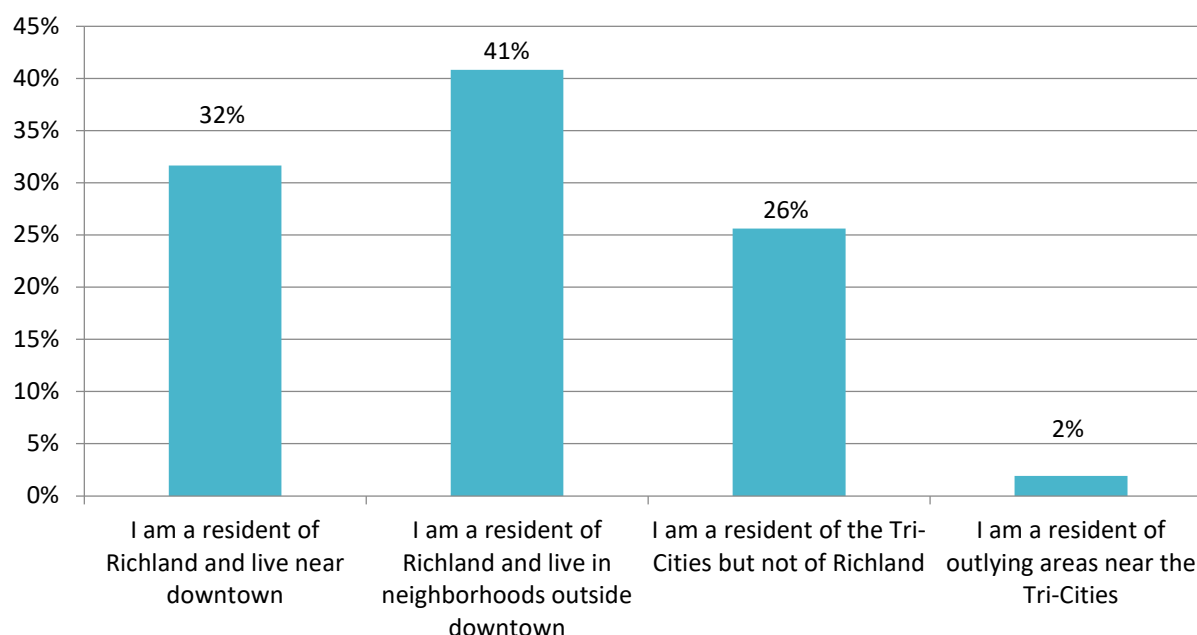


that supported the One-Way Couplet. Questions 6 provided an opportunity to their concerns about the One-Way Couplet. Community members provided a variety of comments in response to the open-ended questions in the survey and on the open house comment form. This amounted to a total of 1,342 open-ended comments. Upon categorization of these comments, 614 or 46% of the comments were found to be related to priorities outside Downtown. As this Study was focused on Downtown and built upon prior Downtown visioning efforts of the City, comments on priorities outside of downtown were separated from those related to downtown; comments on priorities outside downtown were thematically categorized and are included in Appendix A. The City is now able to return to these comments at a later time.

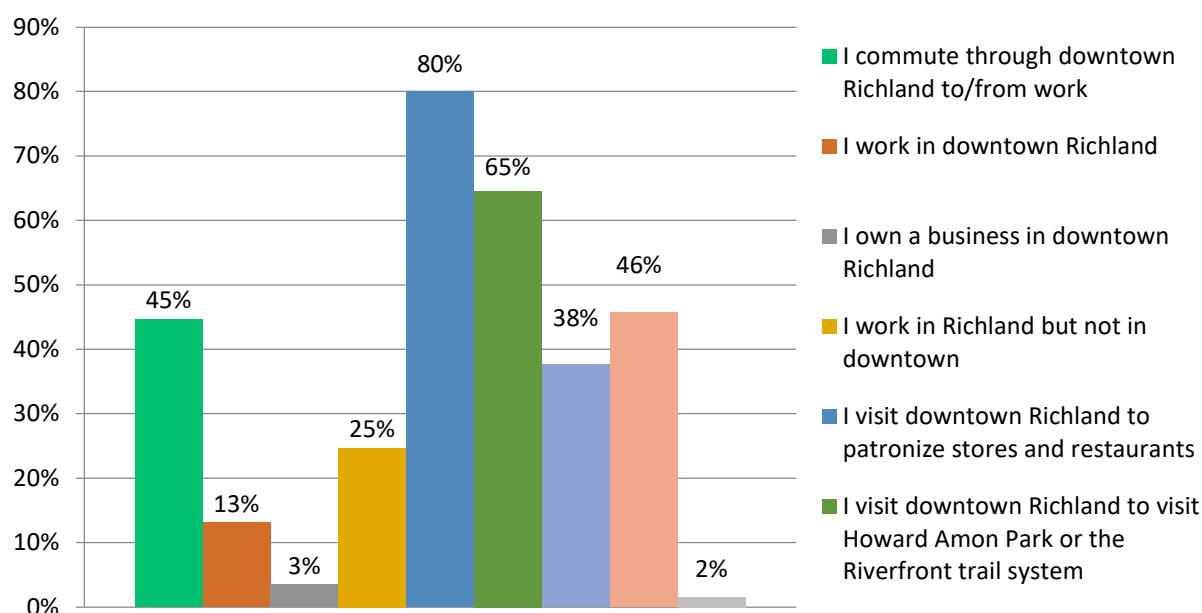
This process allowed the team to focus analysis on comments and public input data pertaining to downtown and to better understand the nuances behind comments for the initial recommended One Way Couplet design. This included comments in favor of the couplet, against the design, specific concerns and suggestions to revise the initial couplet design. This analysis further brought to light that extending the couplet further north could address multiple community concerns. By extending the Couplet further north and addressing those comments, a majority (more than 60%) could support the Extended One-Way Couplet recommendation. The Extended One-Way Couplet was affirmed by the CAC at the CAC #4 meeting as successfully addressing a variety of concerns.

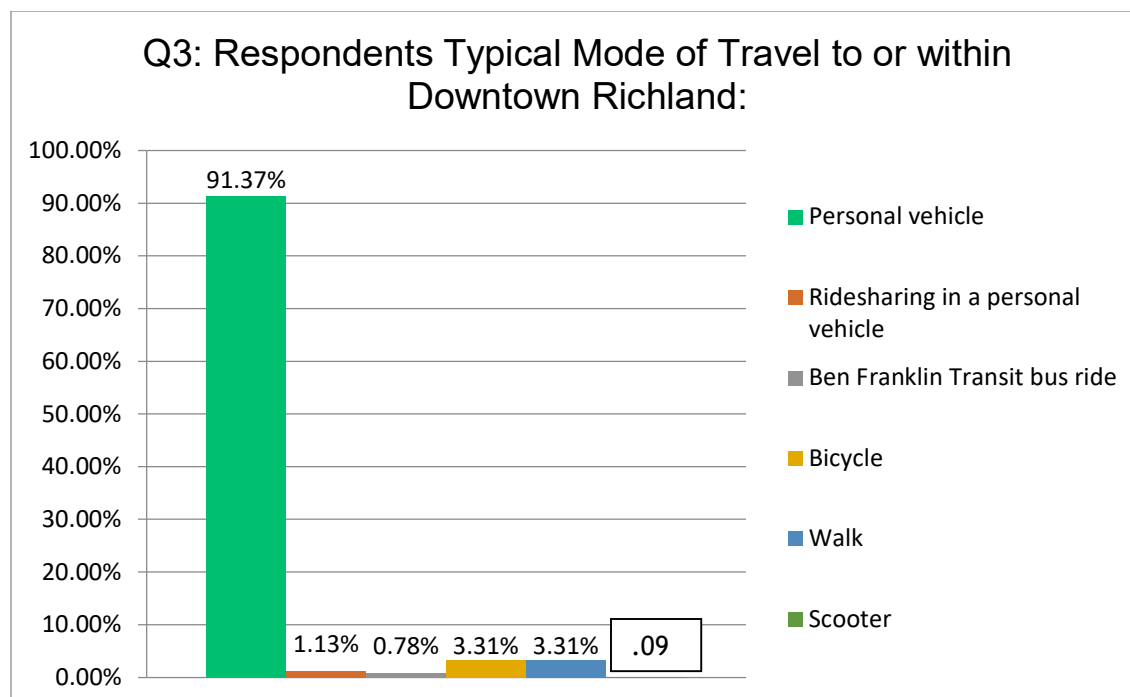
The following graphs display results from the public survey. Additional cross-tabulation calculations for two questions are included in the appendix.

Q1: Residential Relationship to Downtown Richland:

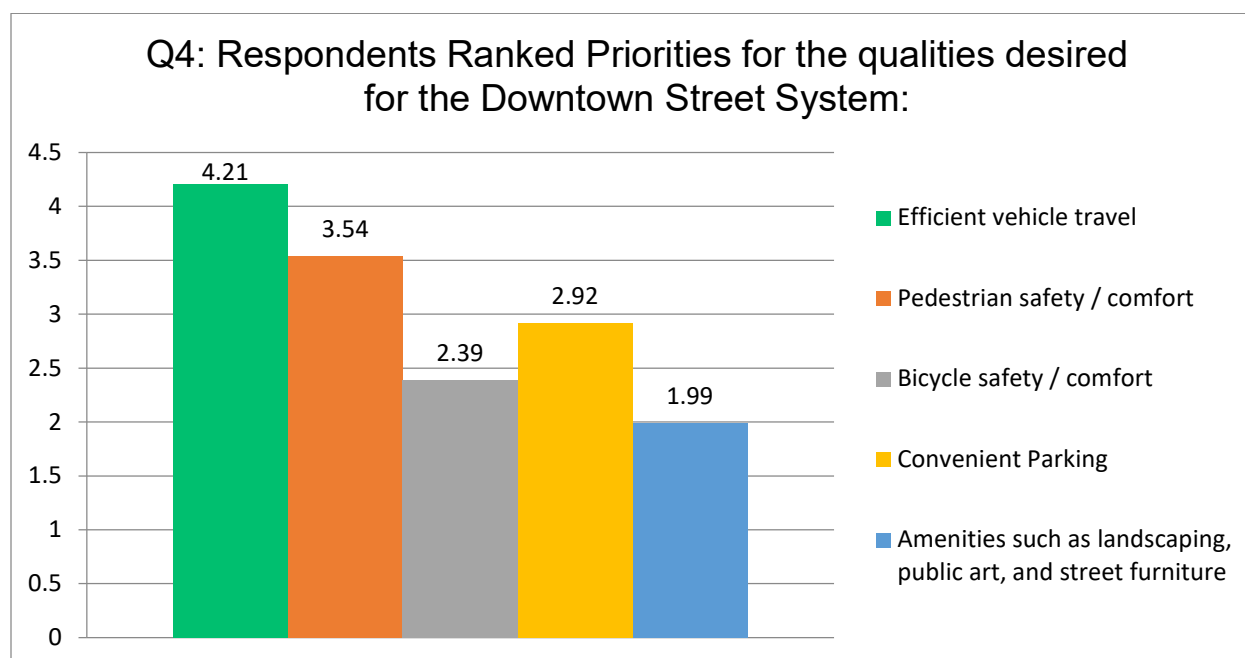


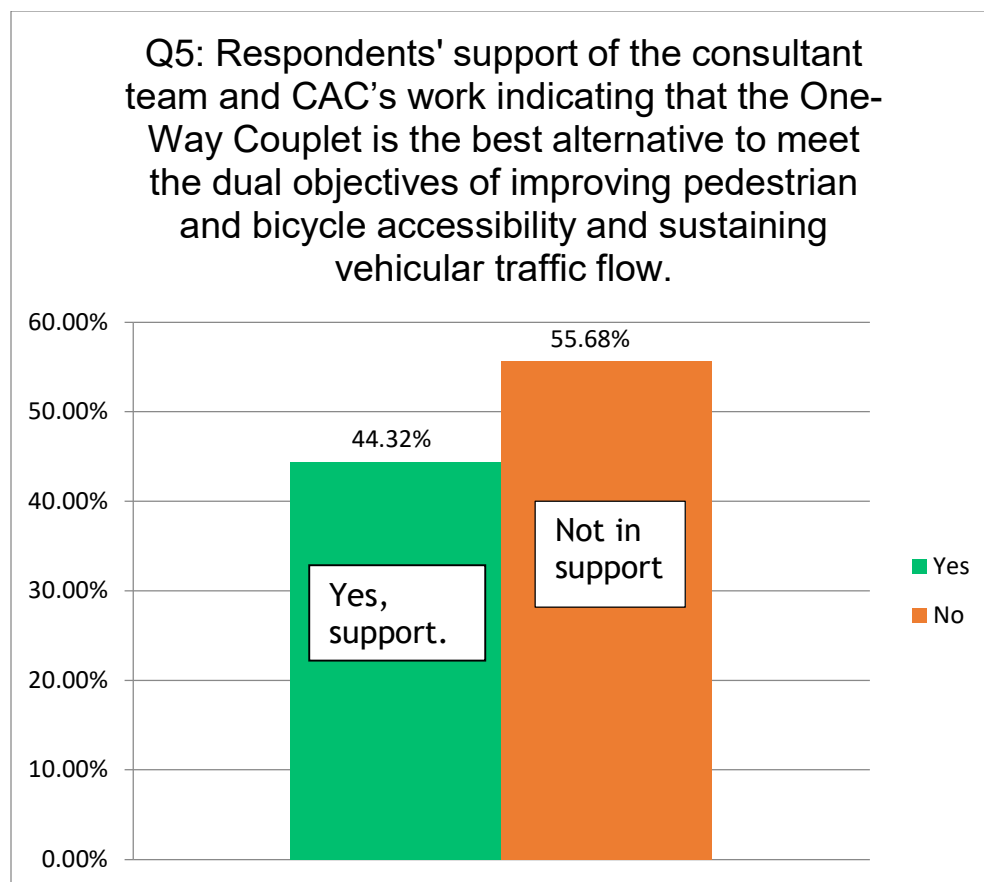
Q2: Respondent's Interaction with Downtown Richland (respondents could choose up to three):



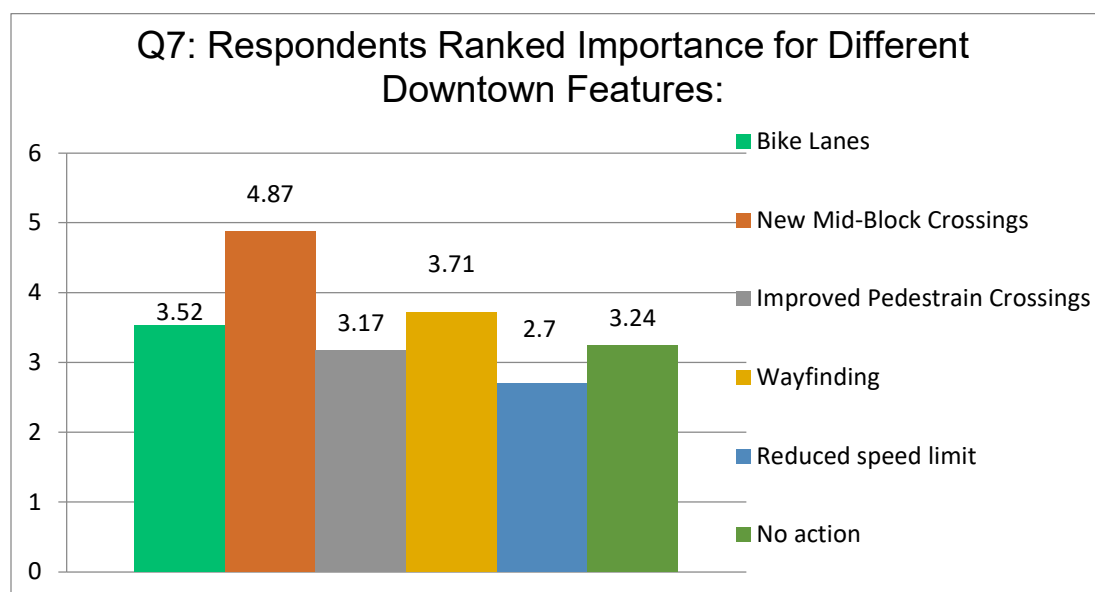


Note on ranked questions: Questions that asked respondents to rank priorities produced a data output that aggregated the combined rankings of first, second and so forth. The data labels illustrate the aggregate of respondents' priorities.

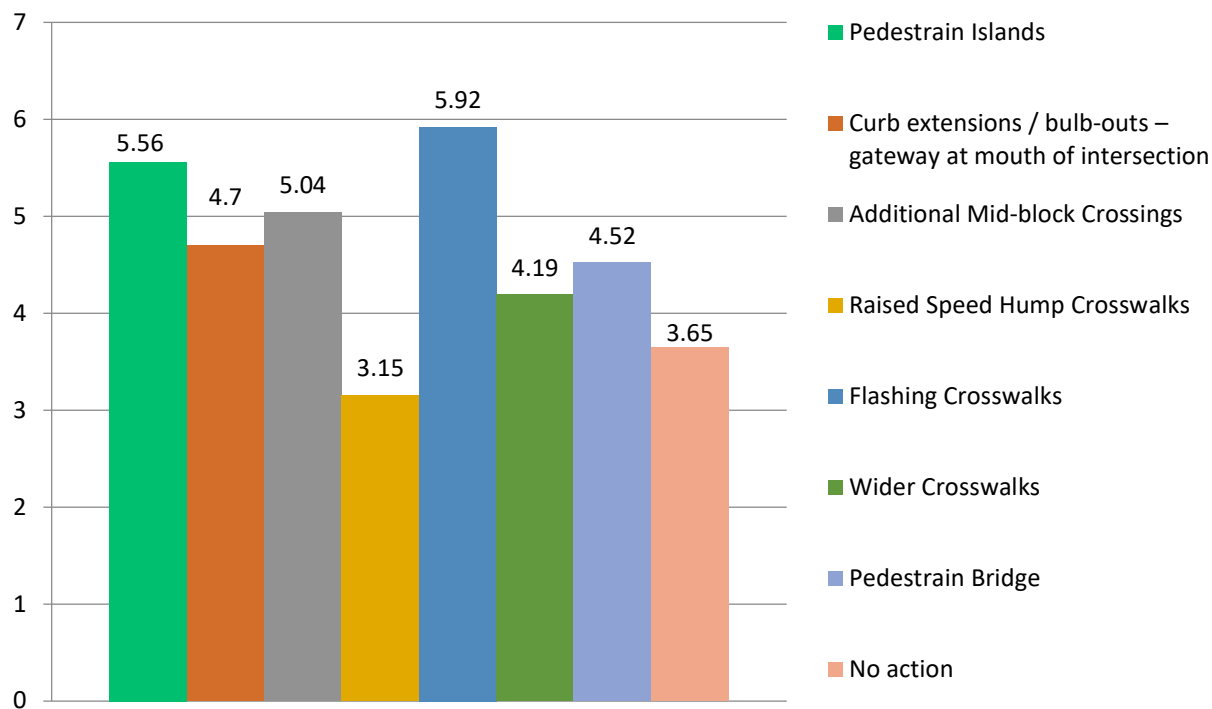




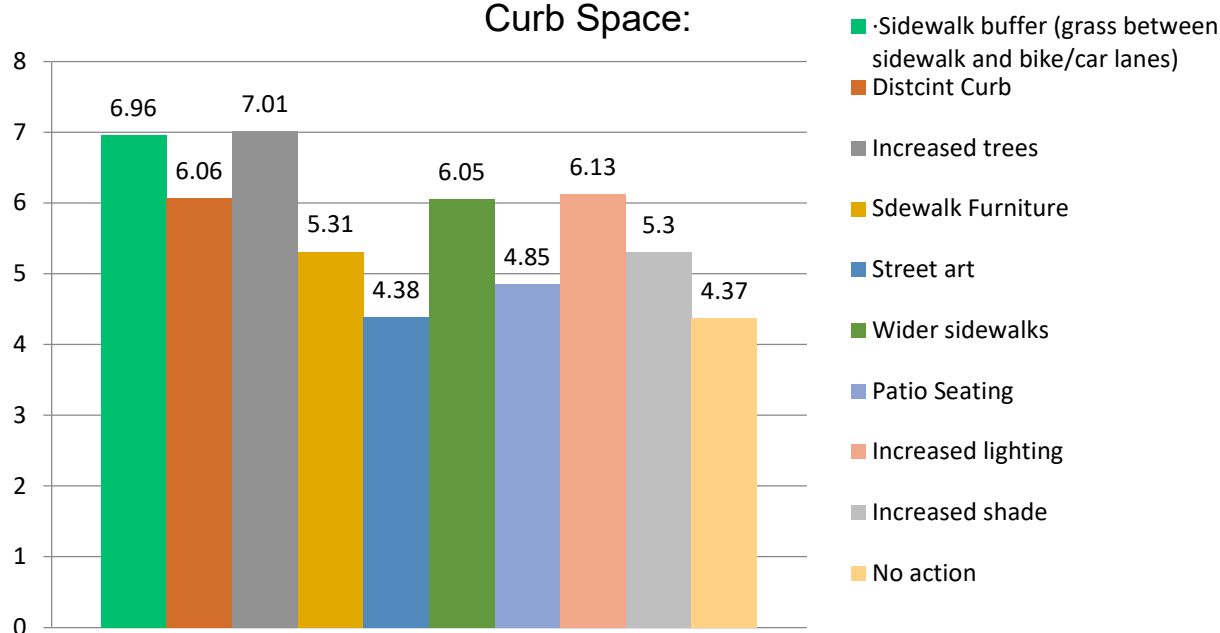
Q6. If you answered “No” to question #5, please share your concerns.
See survey theme categorization for answers to questions #6.



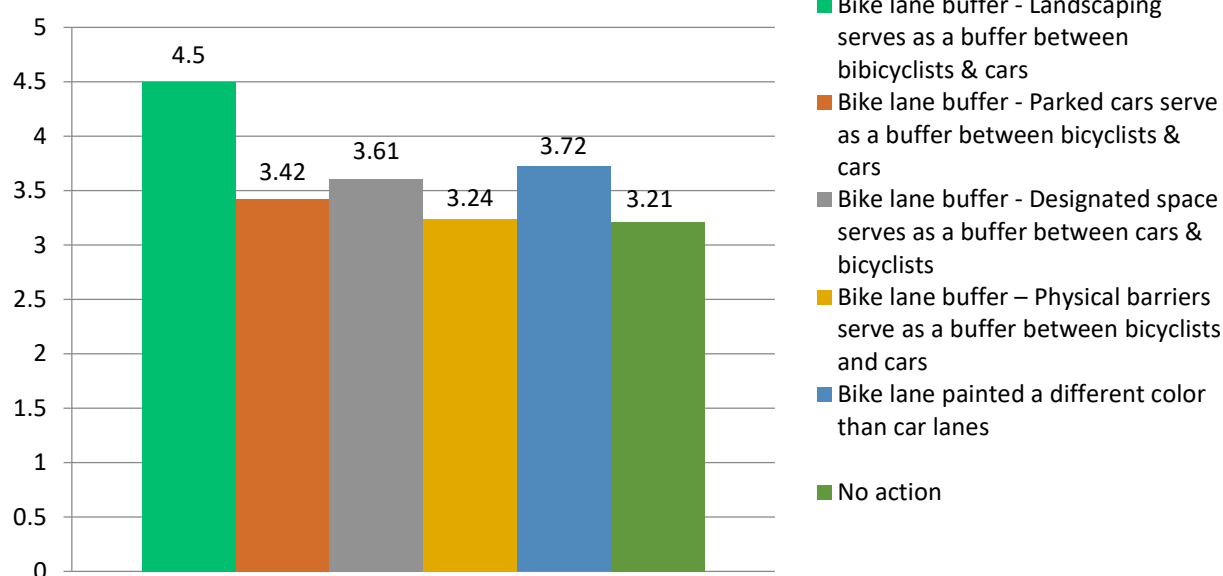
Q8: Respondents Ranked Preferences for Crossing Features that Could be Added with Additional Curb to Curb Space:



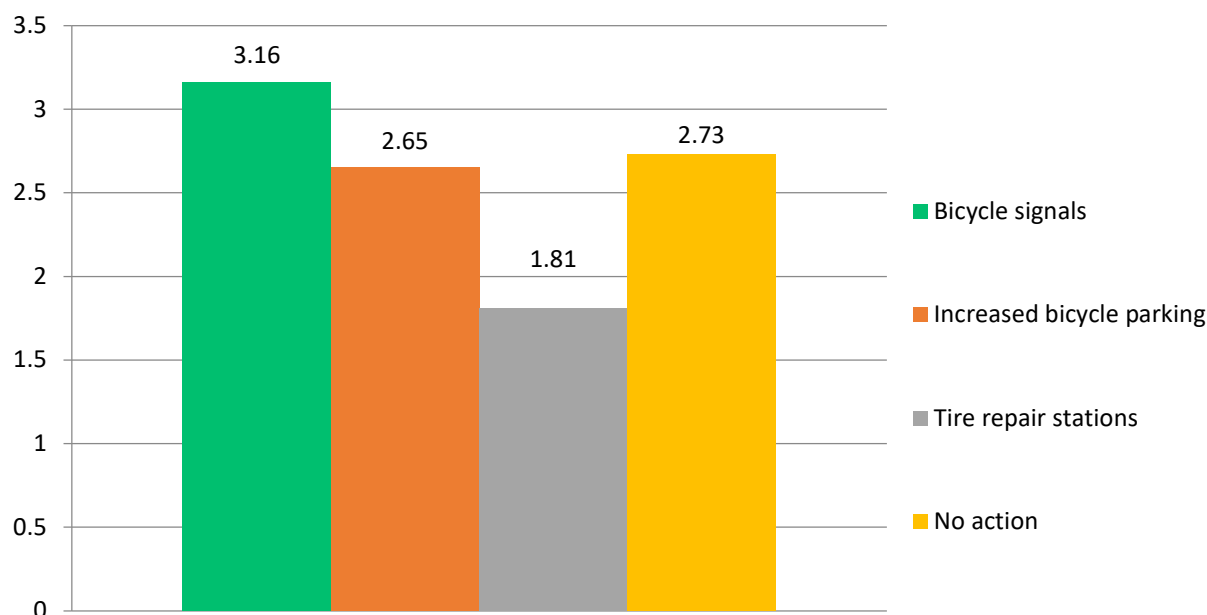
Q9: Respondents Ranked Preferences for Sidewalk Features that could be Expanded with Additional Curb to Curb Space:



Q10: Respondents Ranked Preferences for Bike Lane Features that Could be Expanded with Additional Curb to Curb Space:



Q11: Respondents Ranked Importance of the Different Bicycle Infrastructure Facilities (where 1 is the most important, 5 is the least important):



Q 12. Do you have any other comments that you would like the City to consider?
See prior survey theme categorization for answers to questions #12.

Themes from Survey and Open House Comments

The following themes emerged from survey open-ended questions and open house comment cards.

In favor of couplet – Members of the community shared reasons they were specifically in favor of the couplet option. These included:

- One-ways would help with the flow of traffic.
- Current safety fears as a pedestrian and the belief that the proposed draft improvements would be improve safety.
- Interest in a vibrant downtown and belief that the couplet would be a step in that direction.
- Concern that downtown is becoming an urban heat index. Interest in landscaping improvements to address heat issues.
- For a walkable city where downtown itself is a destination and to foster an increased sense of pride and community.
- Interest to find affordable ways to incrementally work toward the downtown goals before funding is secured.
- Begin Couplet Further North – Suggestions to extend length of couplet segment to better accomplish Study goals.

Congestion within Downtown - Respondents expressed concern that a Couplet would worsen congestion in downtown, specifically in reference to the number of lanes, travel capacity, turn options and turning movements.

Social impacts and effects on low-income populations – Respondents shared further negative impacts that they saw as potential outcomes of the draft recommended couplet design, outside of specific traffic impacts.

On-street Parking – Respondents expressed hesitation over both the effective use and separately, the impacts of on-street parking or other concerns.

Bicycle and car interaction – Commenters voiced concern over potential accidents from bicycle and car interaction and some shared the idea that bicyclists would be safer steered away from main roads.

Ability to Adjust to a Couplet – Respondents expressed apprehension for their own or fellow community members ability to adapt to a couplet. Comments noted annoyance, confusion and trouble navigating one-way streets in other cities.

Access for Businesses and Public Space - Commenters shared that a couplet would complicate access to downtown businesses. Some respondents voiced that they would no longer visit downtown businesses in a couplet scenario.

Preference for Vision of Road Diet Option – Community members also expressed support for the vision of the Study but felt that the Couplet design does not go far enough toward accomplishing such goals. Comments voiced feelings that the needs of Richland residents toward downtown should be prioritized over the needs of commuters and more so, that the Study should take a larger role with transportation options to support lowered dependence on vehicles.

Prefer Downtown as a Commuter Corridor - Comments demonstrate different visions for the future of downtown Richland.

Parking as a priority downtown – Outside of on-street parking concerns, community members shared that parking overall in downtown Richland should be included in the downtown discussion.

Downtown amenity preferences – Members of the public expressed interest in downtown amenities; for some these served as integral to the couplet and others shared a preference for amenities to be added to the no-build scenario.

Preference for Jadwin Alternative – Specific reasons that respondents preferred the Jadwin Alternative presented in the Study.

Comments on other priorities: Congestion overall in the Tri-Cities -preference for priority on the By-pass and North Richland Bridge, funding and other issues/suggestions.

Development of Final Recommendations

This section summarizes the key take-aways of the public comments and rationale for making adjustments to the preferred alternative to improve on the recommendation and address public comments.

Following the Open House significant effort was put forth to understand the over 1300 comments received as discussed earlier in this report. Some of the concerns identified by respondents to the survey were considered by City staff to be well founded and could be addressed through a significant adjustment to the One-Way Couplet. Namely, respondents commented on expressed concerns with the couplet as shown and the social impacts and effects on low income housing. Others suggested that the couplet be expanded to the north.

Extended One Way Couplet

After analysis of the public input, the project team created a revised couplet suggestion to address and mitigate concerns brought forward in the public input and discussed these changes with the CAC on March 18, 2020 via Zoom technology due to COVID-19. This alternative is called the Extended One-Way Couplet and is shown in Figure 6. It would continue northbound on George Washington Way to Symons Street and the Southbound direction would use Symons Street as the transition from southbound George Washington Way to Southbound Jadwin Avenue.

- The new design would also involve less property impacts, less construction impacts, including eliminating the need to remove low-income housing.
- The new concept would include the Uptown area as well.

CAC members discussed the proposed couplet extension, discussion items included:

- Preference for the new design due to the ability to link with existing City parks, including Jefferson Park, without interfering with existing infrastructure.
- Views that the new design would increase business at the Uptown and include the Uptown more in the general circulation pattern.
- Symons as a major walk route to Jefferson Elementary and concern to ensure school children needs are considered in further design.
- Interest to ensure Symons continues to function as a usable bicycle route for families; shared that Symons currently provides a linkage from East-West for neighborhoods and the River.
- Need to consider existing patterns of 18-wheeler trucks.
- Interest to make sure that non-motorized travel needs are considered in full design.

The City shared appreciation for voiced concerns by the CAC and expressed that these concerns could be addressed in the next design stage of the couplet. The City emphasized that the treatments on Symons and George Washington Way will provide fully protected crossing signals and significantly increased comfort for pedestrians.

The CAC voted to advance the Extended One-way Couplet as the recommendation of this Study.

Given this adjustment, additional outreach to the Uptown Business Improvement District was made by City staff. Some phone calls were received with specific questions to understand the Extended One-Way Couplet and these issues were answered to the callers' satisfaction.

The advantages of the Extended One-Way Couplet over the original One-Way Couplet concept include:

- It doesn't displace the low income housing at the north end.
- It extends the bicycle facilities to a larger portion of the City.
- It makes the Uptown more a part of the Central Business District.
- It has fewer property impacts overall.
- It has less construction impacts.
- The cost is likely to be lower.

Street Enhancement Features

The project team also reviewed public input with the CAC regarding downtown, pedestrian and bicycle enhancements. The public feedback demonstrated emphasis in pedestrian safety and comfort, particularly through wider sidewalks, buffers between sidewalks and cars, new trees, increased lighting, distinct curbs and new mid-block crossings. For the type of bicycle lane, respondents expressed interest in as well as buffered bicycle lanes and an overall interest

The CAC reviewed and discussed four options for provision of bike lanes in the corridor and considerations to choose a type of bicycle lane for the length of the corridor.

- 6-foot bike lanes
- Buffered bike lane, 8-feet wide, including barrier
- Buffered cycle track, both directions of travel, 8-feet wide with a few more feet of buffer
- Contraflow lane, opposite direction of travel

The CAC recommendation was to include 8 foot bike lanes, including a barrier, one-way (in the direction of travel) the full length of each corridor. CAC discussion items included:

- This recommendation was seen as the safest to minimize conflicts
- Expressed excitement for buffered bicycle lanes.
- Interest to ensure design stage includes plan for turning movements and bicyclist changing direction, such as bicyclist access to mid-block destinations.
- To consider the integration of Segways, scooters, and electric bikes.
- To ensure bicycle lanes are designed to be safe for residents of all ages and bicyclist abilities.
- For the design stage to consider the effects of vehicle turn lanes on bicycle crossing distances, safety and movements.
- Impacts of climate change on demands for non-motorized traffic.

The consultant team presented options and considerations to the CAC for choosing a combination of on-street parking and wider sidewalks that was developed with City staff as shown below in Table 13. The considerations made during the development of this recommendation included:

- Separates safety conflicts that could arise from bicycle and parked car interaction.
- Allows new on street parking to orient to the Parkway.
- Parking design keeps future options open around the Uptown.
- Jadwin from George Washington Way to Swift has the least amount of extra room.
- Decisions can be implemented on a block by block basis or group of parcels and refined during detailed design.

CAC discussion items included:

- Wider sidewalks near John Dam Plaza – Some CAC members preferred wider sidewalks to provide a larger public plaza and a safety buffer between cars and the public during events; a few others preferred on-street parking for events.
- Consideration of building height to sidewalk ratios.
- Interest in the sense of vibrancy and future opportunities created by wider sidewalks.
- Interest in a 25-mile per hour operating speed for the corridor.
- Overall interest in a safe and complete street active transportation network.
- From Ben Franklin Transit (BFT): “BFT needs at least 8' in depth for a required ADA loading pad (5' wide x 8' deep), e.g. wide sidewalks are GREAT in the direction of travel. The 8' depth can be provided across any level minimum grade hard surface, i.e. sidewalk + buffer or bike lane if necessary.”
- Parking will be the default as the corridor improvements will likely be phased. As each phase occurs, the City can work with adjacent property owners to determine the appropriate mix of parking or wider sidewalks. There is a lot of flexibility in moving forward.
- The roadways are not uniform in their width, so there will likely be a variety of different looks.

Table 13. Recommendation for On-Street Parking and Wider Sidewalks

Segment	On-Street Parking	Wider Sidewalks
George Washington Way: Jadwin to Knight	Yes, left side of street	Widen by 6 feet
George Washington Way: Knight to Swift	None	Extra wide sidewalks by 14 feet
George Washington Way: Swift to Symons	Yes, left side of street.	Widen by 6 feet
Jadwin Avenue: George Washington Way to Swift	None	Widen by 3 feet
Jadwin Avenue: Swift to Symons	Yes, left side of street	Widen by 6 feet

The CAC supported the recommended combination of on-street parking and wider sidewalks shown in Table 13.

Adoption Process

A presentation was made to the City of Richland Planning Commission on June 24, 2020 summarizing the key components to the study, including the process, CAC involvement, alternatives developed, the evaluation criteria and results of the alternatives analysis. The refined preferred alternative was discussed and how the public involvement process was felt to create an improved recommendation supported by the community for accomplishing the objectives of the study and moving towards the City vision for the downtown area. The project recommendation discussed above were presented and a recommendation forwarded to the City Council for their consideration.

The City Council met on July 7, 2020 to review the study process and recommendations as well and voted unanimously to adopt the findings of the study. The adopting resolution is included in Appendix E.

Summary

The City of Richland has worked for many years to develop and enhance the Central Business District and the downtown core area, to make it a vibrant and active place that supports businesses, public gatherings and has a sense of place. Several studies have been performed and documents have been created since then to help guide the City's vision of achieving a center for housing, employment shopping, recreation, professional services and culture. Most recently, in 2018, the City Council adopted an update to its Strategic Leadership Plan with six focus areas. One of the focus areas, Increase Economic Vitality, includes an objective to improve streets to enhance walkability in the core downtown area. This study was commissioned to develop, evaluate and prioritize street improvements to advance the City Council's vision for a pedestrian-friendly waterfront and downtown while maintaining or enhancing the vehicular travel flow through downtown.

A robust public engagement effort for the study included stakeholder interviews, an active Community Advisory Committee (CAC) representing a wide range of interest that met four times and provided important guidance and feedback throughout the study, Business Workshops, and opportunities for the general public through a Public Open House and on-line survey. Throughout the project, meeting summaries and other project materials were posted on the [project website](#).

Four alternatives for evaluation were developed working with the CAC. Each roadway alternative provides a different amount of space, or opportunity, within the existing curb to curb roadway, to implement potential downtown pedestrian and bicycle enhancements.

- Alternative A: No-Build – No street network changes but could include enhancements and other amenities.
- Alternative B – One-Way Couplet Alternative: convert George Washington Way to one-way operation northbound and Jadwin Avenue to one-way operation southbound south of Williams Boulevard.
- Alternative C – Jadwin Alternative: Promote Jadwin Avenue to the principal arterial to carry the majority of traffic and convert George Washington Way to a local street between Jadwin Avenue on the south and Williams Boulevard on the north.
- Alternative D – Road Diet: reduce the number of lanes on both George Washington Way and Jadwin Avenue to one through lane in each direction with a two-way left turn lane.

The CAC developed evaluation criteria with specific definitions for each to be used to select a preferred alternative. Each member also completed an exercise to weight the criteria to account for the fact that some felt more strongly about some criteria than they did about other criteria. The criteria used and the consolidated weighting of the Committee were:

Criterion	Weight
Safety	10
Improves Appeal	8
Mobility and Connectivity for Alternate Modes	8
Property Acquisition Impacts	5
Cost	4
Move Traffic/Reduce Commute Time	4
Construction Impacts	4
Parking	3

The alternatives were scored by the consultant team and reviewed with the CAC. Some adjustments were made to more accurately reflect comments on the scoring. Members stated that overall they are comfortable with the process and felt the project team executed a transparent structure for the CAC.

The One-Way Couplet scored highest. The CAC agreed this alternative should go forward to the public as the recommended alternative for their review and feedback. It was noted that the score for the Road Diet Alternative was very close to the One-Way Couplet Alternative and that it accomplished many of the objectives of the study. However, a fatal flaw was identified that it did not meet one of the study objectives of maintaining or enhancing the vehicular travel flow through downtown, in that it provided failing levels of service on George Washington Way.

The advantages of the One-Way Couplet identified through this study are that it is safer for cars in that it has fewer vehicle conflicts, it is safer for bicycles because it provides a separate facility, it is safer for pedestrians because it has fewer lanes to cross east-west, it has higher vehicular capacity because of more efficient traffic signal operations, and there is extra space for parking and wider sidewalks.

Following the Open House significant effort was put forth to understand the over 1300 comments received. Some of the concerns identified could be addressed through a significant adjustment to the One-Way Couplet. Namely impacts on low income housing and suggestions that the couplet be expanded to the north. After analysis of the public input, the project team created a revised couplet and discussed these changes with the CAC. This alternative is called the Extended One-way Couplet and continues northbound on George Washington Way to Symons Street and the Southbound direction would use Symons Street as the transition from southbound George Washington Way to Southbound Jadwin Avenue. The CAC voted to advance the Extended One-way Couplet as the recommendation of this Study.

The advantages of the Extended One-Way Couplet over the original One-Way Couplet concept include:

- It doesn't displace the low income housing at the north end.
- It extends the bicycle facilities to a larger portion of the City.
- It makes the Uptown more a part of the Central Business District.
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The CAC reviewed and discussed options for provision of bike lanes in the corridor and considerations to choose a type of bicycle lane for the length of the corridor. The CAC recommendation was to include 8 foot bike lanes, including a barrier, one-way (in the direction of travel) the full length of each corridor.

The consultant team presented options and considerations to the CAC for choosing a combination of on-street parking and wider sidewalks. Although specific recommendations were made, an important part of the discussion was that decisions can be implemented on a block by block basis or group of parcels and refined during detailed design. Parking will be the default as the corridor improvements will likely be phased. As each phase occurs, the City can work with adjacent property owners to determine the appropriate mix of parking or wider sidewalks. There is a lot of flexibility in moving forward. The roadways are not uniform in their width, so there will likely be a variety of different looks

The City Council met on July 7, 2020 to review the study process and recommendations as well and voted unanimously to adopt the findings of the study.

Downtown Connectivity Study

APPENDICES

Richland, Washington

August 2020

Prepared by:



J-U-B ENGINEERS, Inc.
2810 W. Clearwater Avenue, Suite 201
Kennewick, Washington 99336

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Downtown Connectivity Study

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August 2020

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Appendix A

Public Involvement

OVERVIEW

The purpose of the Richland Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown. The J-U-B ENGINEERS, Inc. team will develop, evaluate and prioritize street improvements in the area of George Washington Way (GW) between Williams Boulevard and Bradley Boulevard, a one-mile stretch. Ultimately the findings and recommendation will be presented to City Council for selection of a preferred approach.

Key stakeholder interviews along with a community advisory committee (CAC), targeted business district meetings, community survey and public open house are designed to foster transparency and open communication and provide the opportunity for meaningful public involvement in the alternative development and selection process.

The Langdon Group, a division of J-U-B, conducted 30 interviews in July 2019. Stakeholders, as determined in coordination with the City, represented a range of interests (list below). The assessment did not include every interested party, but did include representation from a diversity of perspectives.

The majority of stakeholders interviewed are highly supportive of an inviting, welcoming downtown core that serves as a destination to draw residents and visitors with improved, non-motorized mobility connectivity. However, as a whole, stakeholders commented that this vision is in tension with the idea of maintaining or enhancing the current traffic flow on GW through the study area. Differing opinions were expressed over whether pedestrian improvements should discourage commuter drivers from using GW. The degree to which stakeholders offered solutions depended on the degree that they believed the congestion on GW could be decreased through a potential alternative (described below), as well as the outcome of the North-South Transportation Study.

From the assessment alternatives and themes for an inviting downtown emerged, described below in the comprehensive summary. The identified alternatives can serve as a starting place for discussion with the CAC and the larger public involvement effort. Themes warrant further discussion to determine the degree to which concerns and concepts raised are viable within the sideboards of this study or are more appropriate in an ancillary effort.

METHODOLOGY

Conversations were conducted with a set of predetermined questions, yet informally to allow the stakeholders to drive the direction and discuss the issues that were most important to them; therefore, the resulting summary includes themes, not quantifiable data. This report is intended to provide a window into the opinions, issues, and concerns that exist among the diversity of stakeholders. Notes are made to identify comments and ideas that were mentioned on multiple occasions.

STAKEHOLDER ORGANIZATIONS INTERVIEWED

- Planning Commission Member
- Parks and Recreation Commission Member
- Youth member, Parks and Recreation Commission
- Economic Development Committee Member
- Ben Franklin Transit
- Bike Tri-Cities (two members)
- Pedestrian Advocate (interviewed with Bike Tri-Cities walking tour interview)
- Pacific Northwest National Lab
- Energy Northwest
- Uptown Shopping Business Improvement District
- Parkway Business Improvement District
- Columbia Basin College
- Washington State University-Tri-Cities (two staff members)
- Port of Benton
- Farmers Market Board
- Police Department
- School District (two members)
- Sterlings Restaurant
- Red Lion Hotel
- Boost Build
- U.S. Department of Energy
- Kadlec Regional Medical Center (two staff members)
- Fuse
- Gravis Law
- Tri-Cities Regional Chamber
- Visit Tri-Cities/ TCVCB

Total Stakeholders interviewed: 30

COMPREHENSIVE SUMMARY

Proposed Alternatives

The following represents potential design alternatives for advancement for discussion in the public involvement process.

Direct traffic to Jadwin – Shifting the majority of traffic to Jadwin was shared as a potential path towards converting GW from a commuter route to a quieter, pedestrian friendly “Main Street.” However, concerns were also expressed that Jadwin already has existing safety issues for pedestrians and that pushing traffic volume there would exasperate the current situation. Concerns also centered on

Jadwin becoming a barrier for neighborhoods, a future Columbia Basin College campus and parking areas to access downtown destinations and the waterfront. The Jadwin Avenue/Gillespie Street intersection was mentioned as particularly problematic.

Stakeholders indicated that the key to this alternative's viability is defining the downtown core. If the walkable downtown core is east of Jadwin and centered on GW and the waterfront, then this alternative is more viable. If the downtown core extends west of Jadwin, this alternative becomes less viable.

GW/Jadwin Couplet – Those in favor of the couplet alternative expressed that their preference was due to a belief that this alternative would alleviate congestion on GW and create the conditions necessary for a pedestrian-oriented downtown core. Those against the couplet expressed that they did not believe the configuration would affect the speed of drivers and worried that existing conditions that do not feel conducive to create a downtown core would be left unchanged. Additional concerns involved uncertainty about how customers would access businesses along GW and Jadwin. Concerns also involved existing issues with the effects of street closures near the waterfront for City events and concern that these issues would be exasperated with a couplet.

GW Pedestrian Overpass – Support for a GW overpass was expressed if anchored to a parking structure at the GSA parking lot. Most stakeholders saw an investment in such infrastructure as unlikely to be worth the cost due to an overpass being seen as inadequate to address the variety of existing concerns along GW. Stakeholders voiced that while an over or underpass might address waterfront connectivity it would not address, or could even worsen, current conditions on GW that make walking or bicycling feel neither safe nor inviting. Stakeholders added that if either was to be implemented that an underpass or tunnel could provide needed shade and would need to be strategically placed to build upon downtown destinations that draw people to the study area. Other considerations shared:

- Possible way to connect the riverfront trail with the Parkway.
- People often want to walk the shortest distance and may not want to walk up the stairs.

Enhanced Transportation and Street Design Features – Stakeholders consistently expressed support for pedestrian and bicycles infrastructure but varied in the types of improvements they preferred. Bulb-outs, green strips, narrowed lanes, reduced speed limits, and raised speed hump crosswalks were shared as ideas for physically and psychologically slowing vehicle traffic to increase bicycle and pedestrian safety. Stakeholders also focused on the following design features as potential solutions that are not necessarily dependent on changes to the roadway network:

Bicycle Lanes and Infrastructure – Considerations shared:

- Necessary to increase the safety and inviting nature of biking along GW as a downtown core.
- Bicycle lanes were indicated to be marked, with green paint, sharrows and with clear signage about the roles of bicyclists on the road.
- Issue with people parking in existing bike lanes.
- Increased bicycle parking downtown.
- Improved ability to transition from bicycle to transit.

- Stations with pumps for flat tires and tire repair needs.

Sidewalks – Sidewalks were noted as a place to increase connectivity, particularly between downtown and the Uptown Shopping Center, at Williams, either as new construction or to be widened. Additional considerations shared:

- Need for sidewalks to be clearly delineated from the street, with a more distinct curb.
- Green strips to buffer cars and bicyclists/ sidewalks.
- Development requirements for a sidewalk buffer.
- Issue with people parking on the sidewalks → Need for a clearly delineated curb.
- Increased shade.
- Strategic use of sidewalk furniture.

Crosswalks – Considerations shared:

- Flags consistently described as dangerous and ineffective.
- Multiple suggestions were made to replace current crosswalks with a flashing signal that could be triggered by a pedestrian button.
- Additional crosswalks were requested at mid-block crossings, with stakeholders noting that often the blocks in downtown Richland are too long and distinctive walking between destinations.

Street Trees and Public Art – Considerations shared:

- Consistently stated as a positive way to change the street profile of GW was favored across all stakeholders.

On Street Parking – Considerations shared:

- Potential option to create a downtown feel for GW.
- If bicycle lanes are to be added, on street parking was indicated to be between the car lane and bicycle lane.

Additional Traffic movement ideas – Considerations shared:

- Encourage traffic to move onto the bypass.
- Jadwin and GW intersection as a roundabout.

Themes

The following themes emerged as ideas or concerns expressed by multiple stakeholders with connectivity to the topic of an inviting downtown but not specifically tied to alternatives.

Pedestrian Mall – A pedestrian only area was overall expressed to be an asset for the community, residents and visitors alike. The Parkway was stated to be a likely candidate for a pedestrian mall, with emphasis on the need to strategically ensure that parking can be met through the use of better

utilization of existing parking venues. For a long-term vision, suggestions involved an expanded pedestrian mall with a closed Knight Street between the Parkway and John Dam Plaza and continued walkability between Jadwin and GW to the Uptown Shopping Center. Further, stakeholders expressed a potential use to connect this study with economic development (expanded farmers market, wine tasting, etc.) and the Richland Creative District group. Stakeholders saw the future vision of the old City Hall building as integral to building a downtown core and potential pedestrian mall.

Pedestrian Paths/Trails – Considerations shared:

- Urban Greenbelt Trail – need for maintenance and improved signage.
- Additional paths were considered useful if provided connectivity to clear destinations, similar to the path along a creek inside the Kadlec Medical Center campus.
- Improved connections to the riverfront path.

Wayfinding – Considerations shared:

- Increased signage for existing and future paths was considered a necessity.
- Those new to town or visiting can have a hard time figuring out the existing options.

Additional Safety Concerns – The Parkway and John Dam Plaza were stated to be assets to the community but due to safety considerations can be hard to access for pedestrians and bicyclists from nearby neighborhoods and parking areas. Related comments include:

- Need for increased lighting.
- Ability to safely access parks along GW.

Economic Development – Seen inherently integral to the success of downtown improvements. Interest was expressed in incorporating downtown development with the development of a pedestrian infrastructure to support downtown Richland and the waterfront as a destination, with a focus on establishments that would serve to draw people to downtown and make them want to walk from business to business. This issue was emphasized in creating connections between the Parkway and Uptown Shopping Center. Increased walkability and an inviting downtown core was noted as useful for visitors, tourists from the cruise boats and business travelers who might want to extend their stay. Other considerations shared:

- Concern that low walkability for GW creates a disincentive for people to visit businesses.
- Need for city code to encourage businesses that would fit with a walkable, downtown core.

Land Use - Considerations shared:

- Interest in mixed-use developments that fit with the design of an urban core.
- Suggested for City to proactively ensure that the types of businesses within a downtown core are those that draw people to the area, examples include retail or experience-based business over specific needs such as a dentist.

Parking - Considerations shared:

- Suggested need for businesses to better share parking, especially businesses with customers who use parking at different times of the day.
- Need for a cultural shift where people do not expect to park directly in front of the business they visit and feel safe and comfortable walking down the block to different businesses.

Education – Many stakeholders expressed that drivers often seemed confused as to the role of bicyclists on the road. Stakeholders recommended that any improvements be accompanied with an educational campaign for driver's to better understand expectations when interacting with bicyclists.

Institutional and partner agency considerations – Considerations shared:

- Columbia Basin College – Potential campus expansion centered on Knight Street Transit Center.
- Emergency services – Goal is for any changes in street design to not impede the movement or accessibility of emergency responders. Parallel parking was considered to be a potential blocker.

Suggestions for on-going feedback – Considerations shared:

- City website feature to report when a stop light does not recognize bicyclists.

Case study communities – Many stakeholders offered communities that overcame similar challenges as models to learn from:

- *Bend, Oregon* – Great downtown feel, the design of the city makes visitors and residents want to walk about and visit different businesses; emphasis on the connection to the Deschutes River and that Bend achieves an inviting Downtown that exists with primary roads.
- *Sunriver, Oregon* – Designed for bicyclists, great system of separated bike lanes and trails, includes tunnels; feels very safe.
- *Wenatchee, Washington* – Walkable downtown next to a river. Recent improvements were successful because they were community driven.
- *Coeur d'Alene, Idaho* – Walkable downtown next to a lake; inviting downtown that draws people to want to stop in the town; feels safe to walk.
- *Lewiston, Idaho* – Nice downtown that also serves as the main thoroughfare between Lewiston & Clarkston.
- *Berk/Gillman Trail, Seattle* – Example of an urban greenbelt trail.
- *Penticton, Lake Okanagan, Canada* – Includes two miles of lane front, a two-lane road, with a connected downtown, park pathway; city invested to fix up the area and now hosts major activities.
- *Claremont, CA* – Walking area inspiration for the Uptown Shopping Center.
- Pike's Place Market in Seattle – Example for year-long farmers and retail market.

Public Messaging Channels and Communication:

- Local media (print and online, including social media channels):
 - Tumbleweird newspaper
 - Tri-City Herald

- Community email lists:
 - Business District email lists
- Facebook groups and pages
 - “20s Plenty for Richland” (page and group; multiple recommendations)
 - “Richland Residents” (246 group members; multiple recommendations)
 - Market at the Parkway (page)
 - City pages, including Richland Parks & Recreation
 - Community Watch groups
- Flyers
 - Library
 - Kiosks in the park
 - Howard Ammon Park Community Center
 - Utility Bill



Downtown Connectivity Study

PROJECT OVERVIEW

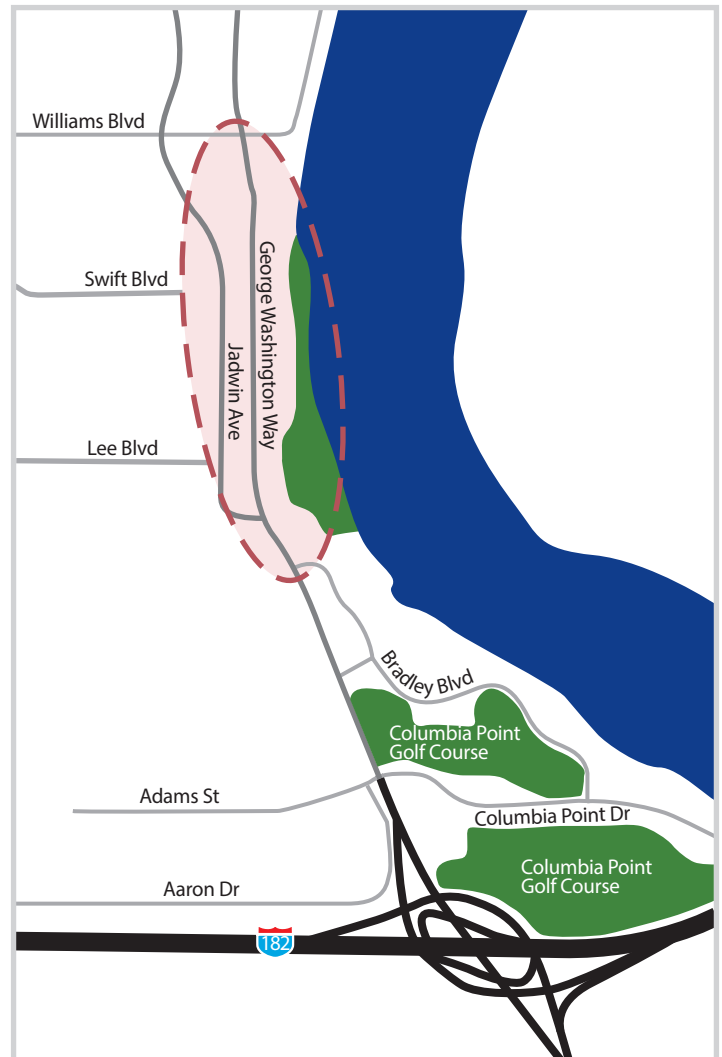
The purpose of this Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown. The project team will develop, evaluate and prioritize street improvements in the area of George Washington Way between Williams Boulevard and Bradley Boulevard, a one-mile stretch. Ultimately the findings and recommendation will be presented to City Council for selection of a preferred approach.

BACKGROUND

The City of Richland has been working since the early 2000s to improve the Central Business District. Several studies have been performed and documents have been created since then, including the Waterfront Branding and Development Vision Reference Guide, Creating a Civic Heart Workshop Proceedings, and the Swift Corridor and Civic Center Study, to guide the City's vision of achieving a center for housing, employment, shopping, recreation, professional services and culture. Most recently, in 2018, the City Council adopted an update to its Strategic Leadership Plan with six focus areas. One of the focus areas, Increase Economic Vitality, includes an objective to improve streets to enhance walkability in the core downtown area. Many of these documents can be found on the City's website, ci.richland.wa.us.

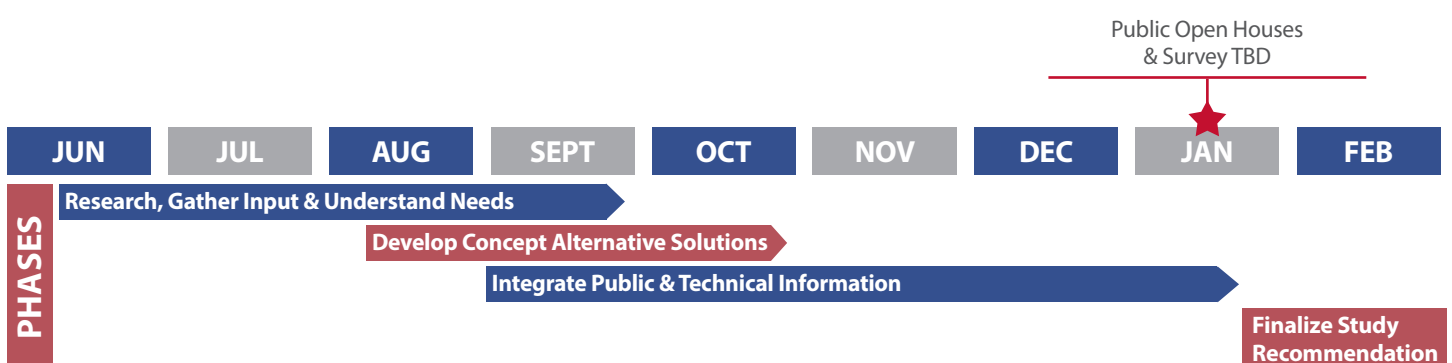
PUBLIC INPUT

The City understands that public input helps shape a community-appropriate solution. The project team will provide opportunities for the public to provide input at key milestones throughout the study process.



Project Area: George Washington Way corridor between Williams Boulevard and Bradley Boulevard

SCHEDULE: 2019 - 2020



Please visit the project webpage at ci.richland.wa.us/departments/public-works for updates.



Email: CMellor@LangdonGroupInc.com
Phone: (208) 484-9592

Downtown Connectivity Study Community Advisory Committee Meeting #1 Summary

Tuesday October 1, 2019 1:00 – 4:00 PM
Richland City's Shops Room 110, 2700 Duportail Street, Richland

Community Advisory Committee (CAC) Membership (listed alphabetically by organization)

- 20s Plenty (Laila Krowiak)
- Alliance for a Livable Community (James A. Wise)
- Bell Furniture (Pete Carroll)
- Ben Franklin Transit (Bill Barlow)
- Bike Tri-Cities (Francesca Maier)
- Boost Build (John Crook)
- City of Richland Emergency Services (Police Department, Chris Lee)
- Columbia Basin College (Brian Dexter)
- Economic Development Committee, City of Richland (Brad Bricker)
- Energy Northwest (Mike Paoli)
- ERA Sun River Realty/ Shareldan Property Management (Dan Houston)
- Farmer's Market (Kristin Suter)
- Pacific Northwest National Laboratory (Karen Blasdel)
- Parkway Business Improvement District (Megan Savely)
- Planning Commission, City of Richland (Kyle Palmer)
- Port of Benton (Roger Wright)
- Red Lion Richland (Zac Carter)
- Sterlings Restaurant (Laura and Jim Sterling)
- Uptown Business Improvement District (Gus Sako)
- Visit Tri-Cities (Michael Novakovich)
- Washington State University (Ray White)

Project Team

- City of Richland, Public Works (Pete Rogalsky, Julie West, John Deskins)
- J-U-B ENGINEERS (Spencer Montgomery, Ben Hoppe)
- The Langdon Group (Bryant Kuechle, Caroline Mellor, Tia Schleiger)

Additional Organizations with Members Unable to Attend

- Parks and Recreation Commission, City of Richland
- ADA Committee, City of Richland
- Richland School District
- Kadlec Regional Medical Center
- Tri-Cities Regional Chamber
- US Dept of Energy - Richland Office

Project Goals Statement

The purpose of this Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown. The project team will develop, evaluate and prioritize street improvements in the area of George Washington Way between Williams Boulevard and Bradley Boulevard, a one-mile stretch. Street improvements are to include pedestrian, bicycle and other downtown enhancements and amenities. Ultimately the findings and recommendation will be presented to City Council for selection of a preferred approach.

Meeting Goal

To discuss the initial draft alternatives; provide input on the initial alternatives, to brainstorm additional alternatives; to share the values and criteria of the CAC for potential new pedestrian, bicycle and other downtown enhancements.

Agenda Items Summary

Welcome and Introductions

- Pete Rogalsky, City of Richland, welcomed the group and introduced the goals of the project and the background for the study. Rogalsky shared expected graphics and data for growth for the region, including projected locations for jobs and housing in the Tri-Cities.
- Rogalsky gave that the goal of the study is to determine potential roadway and traffic configurations that would allow increased options to support an inviting downtown with new pedestrian and bicycle infrastructure. He highlighted that the Study looks to grapple with the reality of the needs of area commuters and the regional economy while also supporting an activated, safe downtown.
- Bryant Kuechle, The Langdon Group, presented the goals of the meeting, the anticipated schedule for the project and ground rules for the CAC meetings.
- CAC members introduced themselves, represented interest or organization and their initial vision for downtown Richland. Visions included:
 - Neighborhood connectivity
 - Multi-modal/ move people (multi-modal gives equal priority to different means of travel, including pedestrians, bicyclists, wheelchairs, buses, scooters and cars)
 - Pedestrian enhancements
 - Tourism
 - Safety
 - Support small businesses
 - Live-work-play
 - Draw more people to downtown
 - Parking management
 - Reduce commute time
 - Role of Columbia Basin College

Public Involvement Update

- Caroline Mellor, The Langdon Group, provided an overview of the project's public involvement Plan (PIP) and of the stakeholder interview summary. A copy of the stakeholder interview summary can be found on the project webpage.
 - Role of the CAC: Forum for representatives to serve as a conduit to their residents, members and employees and provide equal voice to each interest. The CAC is a key participant in the alternative development and evaluation process.
- Stakeholder interviews:
 - Thirty interviews have been conducted, primarily with people in attendance at this meeting. These interviews served to capture an initial perspective on the needs of downtown Richland.
 - Overall, stakeholders expressed clear interest in efforts to create a safe, walkable, inviting downtown, however stakeholders largely noted conflicts with the current use of George Washington Way as a commuter thoroughfare. In the meeting, Mellor encouraged CAC members to hold space to examine and brainstorm options to be able to meet the dual goals of supporting downtown while recognizing current commuter concerns.
- General public involvement opportunities:
 - Business Workshops (Business owners, October 16th and 17th)
 - Open House (Early December TBD)
 - Survey (December TBD)

Discussion and Brainstorm of Draft Alternatives

- Spencer Montgomery, JUB Engineers, began the discussion by stating that two initial alternatives were created for discussion and that any ideas for new alternatives were welcome.
 - Draft alternative A: No changes to current road configuration; add pedestrian and bicycle enhancements
 - Draft alternative B: One-way couplet with George Washington Way serving northbound traffic and Jadwin Avenue serving southbound traffic.
 - Draft alternative C: Quiet George Washington Way converting it to a local road to serve the business and residents while directing the majority of traffic to a re-designed Jadwin Avenue.
- The CAC members discussion the initial three draft alternatives and advantages and disadvantages of each. Montgomery highlighted that one advantage of changes the current roadway configuration is the provision of additional space for new pedestrian and bicycle features. Other discussion items included:
 - Concerns that changes to Jadwin would create environmental justice issues (disproportionate effects on marginalized / low-income populations).
 - Concerns regarding the cost of the Jadwin option.
 - Interest to connect neighborhoods to downtown; concern that the Jadwin option would create a barrier to safe neighborhood access to downtown.
- Kuechle led the CAC members through a robust and participatory discussion of the considerations and ideas for traffic, pedestrian, bicycle and downtown enhancements. CAC member ideas included:

Considerations:

 - Connect neighborhoods (East to West) to downtown
 - East-West pedestrian and bicycle travel

- Parking structures
- Safe access to parking (ability to safely walk from a parking area to other businesses along George Washington Way)
- Increased use of residential mixed-use zoning
- Transitions between blocks with different enhancements
- Safe pedestrian crossings
- Effects on businesses
- Effects on the region's carbon footprint

Ideas:

- Use of a circulator bus
- Reversible lanes
- Complete Streets / Road Diet (narrow travel lanes for cars and add new pedestrian and bicycle infrastructure; 1-lane each way, turn lane and bicycle lanes)
- Allow on street parking during off peak hours
- On street parking as a buffer between cars and bicyclists
- On street paid parallel parking
- Overpass/ underpass – advanced pedestrian crossings
- Partnerships with area employers – increase opportunities and usability or rideshare
- Context-specific design – consider needs of existing uses and populations (homeless, schools, hospitals)
- Enforcement (concerns regarding cars parked in existing bicycle lanes)
- *New draft alternatives for consideration:*
 - After CAC discussion, two new draft alternatives were carried forward for consideration for evaluation at the business workshops and CAC meeting #2. These are:
 - Draft alternative D. Complete Streets/ A Road Diet
 - Draft alternative E. Reversible Lanes

Criteria for Alternative Evaluation

- CAC Members discussed potential draft criteria to use to evaluate the alternatives. These criteria will be finalized at CAC meeting #2. These criteria are:
 - Safety
 - Multi-Modal: Move “People”
 - Neighborhood Connectivity (Live/Work/Play)
 - Move Traffic/Reduce Commute Time
 - Cost Ratio (bang-for-your-buck, ROW)
 - Get people downtown: Tourism, Support Small Business, urban environment
 - Parking Management
 - Context Sensitive Design
 - Health
 - Property impacts

Action Items & Next Steps

- The project team will compile case studies that represent the example enhancements discussed at the CAC meeting #1 and in the stakeholder interviews. These case studies of changes in other similar cities will be used to further the discussion at meeting #2.
- At CAC Meeting #2 the CAC will narrow the new list of draft alternatives down to four for further evaluation by the project team and for additional input from the CAC and the public.

Downtown Connectivity Study Community Advisory Committee Meeting #1 Agenda

Tuesday October 1, 2019 1:00 – 4:00 PM
Richland City's Shops Room 110, 2700 Duportail Street, Richland

Agenda	Time
Welcome and Introductions – Pete Rogalsky, City of Richland and Bryant Kuechle, The Langdon Group <ul style="list-style-type: none">• Introductions (Name, Representing)• Project purpose• Background for Study• Goals of the meeting• Ground rules• Anticipated Schedule	1:00– 1:30
Public Involvement Overview – Caroline Mellor, The Langdon Group <ul style="list-style-type: none">• Public Involvement Plan• Stakeholder Interview Summary	1:30 – 1:45
Discuss Draft Alternatives - Spencer Montgomery, JUB Engineers and Caroline Mellor <ul style="list-style-type: none">• Presentation of draft alternatives• Discuss alternatives and vision for an active downtown, concepts for roadway and potential pedestrian enhancements• Brainstorm any additional alternatives• Set initial draft alternatives for further evaluation	1:45-2:30pm
<i>BREAK</i>	2:30 – 2:45pm
Criteria for Alternative Evaluation – Spencer Montgomery <ul style="list-style-type: none">• Brainstorm criteria to evaluate the alternatives• Refine criteria	2:45 – 3:30pm
Next Steps and Wrap-up – Bryant Kuechle <ul style="list-style-type: none">• Any general questions/comments?• Tentative agenda for CAC Meeting #2• Thank you	3:30 - 4:00pm

Public Involvement Overview:

Completed

- Stakeholder Interviews and summary report

On-going

- Public Input

Upcoming

- Business Workshops
- Open House
- Survey

Ideas for Street and Pedestrian/ Bicycle Improvements

- Pedestrian islands
- Bulb-outs
- Green strips,
- Narrowed lanes,
- Reduced speed limits
- Raised speed hump crosswalks
- Additional mid-block crossings
- Flashing crosswalks
- Wider crosswalks
- Distinct curb
- Sidewalk buffer
- Shade
- Lighting
- Sidewalk furniture
- Strategic use of trees and public art
- Pedestrian mall
- Wayfinding

➔ Other ideas?

Values and Criteria

Preliminarily heard from stakeholder interviews:

- Safety
- Question of transportation unit ➔ Cars or people
- Support the creation of an inviting, welcoming downtown
- Support for Downtown oriented land use

➔ Additional ideas?

Next Steps

Existing (typical, street used, how wide sidewalk)

Alternatives

Street sections to show options

Downtown Connectivity Study

Community Advisory Committee

Meeting #2 Summary

Tuesday October 17, 2019 1:00 – 4:00 PM
Richland City's Shops Room 110, 2700 Duportail Street, Richland

Community Advisory Committee (CAC) Membership (listed alphabetically by organization)

- 20s Plenty (Laila Krowiak)
- ADA Committee, City of Richland (Steve Sillers)
- Ben Franklin Transit (Bill Barlow)
- Bike Tri-Cities (Francesca Maier)
- Boost Build (Jenna Coddington for John Crook)
- Columbia Basin College (Brian Dexter)
- Economic Development Committee, City of Richland (Brad Bricker)
- Emergency Services, City of Richland (Police Department, Chris Lee)
- Energy Northwest (Mike Paoli)
- Farmer's Market (Kristin Suter)
- Parks and Recreation Commission, City of Richland (Jim Buelt)
- Parkway Business Improvement District (Megan Savely)
- Planning Commission, City of Richland (Kyle Palmer)
- Port of Benton (Roger Wright)
- Red Lion Richland (Zac Carter)
- Sterlings Restaurant (Jim Sterling)
- Tri-Cities Regional Chamber (Lori Mattson)
- Uptown Business Improvement District (Gus Sako)
- Washington State University (Chris Meiers for Ray White)
- Youth representative (Colin Barry)

Project Team

- City of Richland (Pete Rogalsky, Julie West, John Deskins, Kerwin Jensen)
- J-U-B ENGINEERS (Spencer Montgomery, Ben Hoppe)
- The Langdon Group (Bryant Kuechle, Caroline Mellor, Tia Schleiger)

Additional Organizations with Members Unable to Attend

- Richland School District
- Kadlec Regional Medical Center
- US Dept of Energy - Richland Office
- Alliance for a Livable Community
- Bell Furniture
- Pacific Northwest National Laboratory
- ERA Sun River Realty/ Shareldan Property Management
- Visit Tri-Cities

Project Goals Statement

The purpose of this Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown. The project team will develop, evaluate and prioritize street improvements in the area of George Washington Way between Williams Boulevard and Bradley Boulevard, a one-mile stretch. Street improvements are to include pedestrian, bicycle and other downtown enhancements and amenities. Ultimately the findings and recommendation will be presented to City Council for selection of a preferred approach.

Meeting Goal

To refine the draft roadway alternatives for evaluation; to refine and weight the criteria to evaluate the roadway alternatives; to introduce and discuss potential downtown, pedestrian and bicycle enhancements that could be added to the existing roadway or within the roadway alternatives.

Agenda Items Summary

Welcome and Introductions

- Bryant Kuechle, The Langdon Group, presented the goals of the meeting and provided a public involvement update. He shared that the Business Workshops are in progress and that no additional potential alternatives have been introduced.

Evaluation Criteria Pair Wise Comparison

- CAC Members discussed and refined the criterion definitions to be used to evaluate the alternatives. Each CAC member completed a worksheet to weight the importance of each criteria. The weights were tallied and announced at the end of the meeting. A higher weight indicates a higher importance resulted from the committee's aggregated weighting exercise. Discussion items included:
 - Pete Rogalsky, City of Richland, clarified that one of the goals of the Study is to address barriers to East-West movement within downtown. Downtown was defined as Williams Blvd at the north to Bradley Blvd at the south and Stevens Drive to the Columbia River, adjacent to the waterfront.
 - Committee members referenced interest in a criterion including potential economic impacts to local businesses from improvements in the walkability and bikability of an area.
 - Parking was clarified to refer to the opportunity to provide on-street parking, as the scope of the Study does not include parking outside of the roadway.
 - Property impacts as a criteria was also discussed and it was decided that impacts during construction were distinct from impacts resulting from property acquisition.

Final criteria and weights

Criteria	Definition	Weight
Safety	Allows for the safe movement of people in all forms (automobiles, bicycle, pedestrian, transit, disability aid) considering conflict points.	10
Improves Appeal	Attracts visitors, new residents and businesses to the downtown and the adjacent waterfront in support of tourism,	8

	small businesses, and residents' experience in the urban environment with natural features (Columbia River).	
Mobility and Connectivity for Alternate Modes	Focus on moving "people" in all forms (bicycle, pedestrian, disabled, transit, etc.), in all directions, in support of the economic vitality, healthy living and healthy environment considering the context of the environment, specifically the ability for residents to safely connect on foot or with disability aid from nearby neighborhoods to the downtown and from downtown to the waterfront.	8
Property Acquisition Impacts	Number of properties fully and/or partially acquired.	5
Cost	Easier to implement considering right-of-way, engineering and construction of roadway changes.	4
Move Traffic/ Reduce Commute Time	Accommodates the efficient movement of north-south automobile traffic through Richland.	4
Parking	Provides opportunity for additional on-street parking and wayfinding signs to existing available parking lots.	3
Construction Impacts	Severity of inconvenienced activities during construction.	3

Note: Those that scored the same were ordered alphabetically in the above table.

Refine Roadway Network Alternatives

- The CAC members discussed the initial roadway alternatives and the alternatives brainstormed at CAC Meeting #1.
 - Initial roadway alternatives are (1) Couplet with one-way George Washington Way northbound and Jadwin Avenue southbound; (2) Jadwin Option, where traffic is diverted to Jadwin Avenue and G Way is local street; (3) No changes to the roadway network.
 - Potential alternatives brainstormed at CAC Meeting #1: (4) Road diet, reduced lanes within the existing roadway with traffic calming measures; (5) reversible lanes.
- Kuechle shared that technical analyses showed that reversible lanes would not be possible on the roadways in this Study. Other CAC discussion items included:
 - The potential use of technology and smart systems to keep traffic moving beyond additional lanes. Project team members shared that this could be considered in the design process as part of any of the alternatives.
 - CAC members shared safety concerns regarding Jadwin Avenue and Gillespie Street if traveling by means other than a car. Project team members stated this issue would be accounted for in the evaluation process using the criteria created by CAC members. Conflict points between different means of travel will be one of the measures for safety.
- The refined four roadway alternatives for evaluation are:
 1. No changes
 2. Couplet
 3. Jadwin Option
 4. Road diet

Enhancements Examples

- Spencer Montgomery, JUB Engineers, presented visual examples of potential downtown, pedestrian and bicyclist enhancements within case studies from other similar cities. The examples were framed to spark initial conversation among CAC members and help those with different backgrounds participate in the discussion.
- Montgomery clarified that each roadway alternative provides a different amount of space, or opportunity within the curb to curb roadway, to implement potential downtown, pedestrian and bicycle enhancements. The approach of this Study is to evaluate the four alternatives and once a draft recommended alternative is selected, add the enhancements recommended by the CAC. The potential enhancements included:
 - Improved pedestrian crossings (flashing crosswalks, wider crosswalks)
 - Bikes lanes with buffer (barriers of landscaping, on-street parking or physical space)
 - Bike lane painted green
 - Pedestrian islands
 - Bulb-outs (curb extensions at an intersection)
 - Additional mid-block crossings
 - Raised speed hump crosswalks (only possible on a quiet G Way within the Jadwin option).
 - Grass strips (buffer between sidewalks and cars)
 - Distinct curb
 - Pedestrian bridge
 - Reduced speed limits
 - On-street parking (parallel and diagonal)
 - Wayfinding (maps and signage showing public parking, bike routes and pathways, bus routes/ stops, restaurants, downtown attractions, etc.)
 - Increased trees
 - Increased shade
 - Increased lighting
 - Sidewalk furniture and street art
 - Sidewalk patios
 - Roundabouts
- Discussion items included:
 - Roundabouts were discussed as potentially dangerous for pedestrian and bicyclists. After discussion between the CAC and the City, roundabout was removed from the list of potential enhancements relevant to this Study.
 - Pedestrian bridges were seen to be potentially useful in the right context; however, members voiced concern that a pedestrian bridge could encourage traffic to drive at a speed unsafe for non-motorized travelers.
 - Committee members expressed interest to more fully understand the path toward implementation of the potential enhancements. Rogalsky clarified that the Study is a Planning level Study that will result in recommendations to City Council. The City will undertake further processes once at a design stage. Rogalsky highlighted the incremental successes of the City in revitalizing downtown to illustrate this process; examples included The Parkway and John Dam Plaza. Committee members concurred that setting a clear vision with community buy-in is an important goal of this Study.

Action Items & Next Steps

- The project team will send out a survey to CAC members to rank the potential downtown, pedestrian and bicycle enhancements discussed at the meeting. The results of this survey will inform the process of selecting the recommended enhancements.
- The project team will technically evaluate the four refined roadway alternatives using the defined evaluation criteria as well as the results of the pair wise weighing exercise. This process will include a traffic analysis using future projections for population, housing and job locations.
- At CAC Meeting #3, the project team will discuss the results of the roadway alternatives evaluation and of the CAC survey with committee members.
- Upcoming public involvement opportunities: A public open house and survey will follow, likely in January. Further details will be discussed with the CAC and announced to the public.

Downtown Connectivity Study

Community Advisory Committee

Meeting #2 Agenda

Thursday October 17, 2019 1:00 – 4:00 PM
Richland City's Shops Room 110, 2700 Duportail Street, Richland

Welcome and Introductions – Bryant Kuechle, The Langdon Group <ul style="list-style-type: none"> • Introductions (Name, Representing) • Review agenda • Business workshop overview • Approach and schedule 	1:00– 1:15
Evaluation Criteria Pair Wise Comparison – Bryant Kuechle <ul style="list-style-type: none"> • Instructions • Complete Pair-Wise individually 	1:15 – 1:30
Refine Roadway Network Alternatives - Spencer Montgomery, JUB Engineers <ul style="list-style-type: none"> • Draft alternatives recap • Business workshops feedback • Draft roadway network alternatives for further evaluation and public input 	1:30 – 2:45
<i>BREAK</i>	2:45 – 3:00
Enhancement Examples – Spencer Montgomery and Bryant Kuechle <ul style="list-style-type: none"> • Examples from other communities and enhancements/features • Pedestrian and bicycle connectivity features • Business workshops feedback • How this will fold into the process 	3:00 – 3:30
Evaluation Criteria Weighting – Bryant Kuechle <ul style="list-style-type: none"> • Review results of pair wise comparisons • Discussion 	3:30 – 3:45
Wrap-up – Bryant Kuechle <ul style="list-style-type: none"> • Next steps • CAC #3 • Public Open House and Survey • Schedule 	3:45 – 4:00

DOWNTOWN CONNECTIVITY STUDY

DRAFT EVALUATION CRITERIA

1. Cost: Easier to implement considering right-of-way, engineering and construction of roadway changes.
2. Improves Appeal: Attracts visitors to the downtown and the waterfront in support of tourism, small businesses, and residents' experience in the urban environment with natural features (Columbia River).
3. Move Traffic/Reduce Commute Time: Accommodates the efficient movement of north-south automobile traffic through Richland.
4. Mobility and Connectivity for Alternate Modes: Focus on moving "people" in all forms (bicycle, pedestrian, disabled, transit, etc.), in all directions, in support of healthy living and healthy environment considering the context of the environment, specifically the ability for residents to safely connect on foot or with disability aid from nearby neighborhoods to the downtown and from downtown to the waterfront.
5. On-Street Parking: Provides opportunity for additional on-street parking.
6. Property Impacts: Number of properties fully or partially acquired and inconvenienced during construction.
7. Safety: Allows for the safe movement of people in all forms (automobiles, bicycle, pedestrian, transit, disability aid).

Downtown Connectivity Study

Evaluation Criteria

Criteria Weighting Matrix

Compare A to B and decide which is most important and put letter in box.

Next determine difference in importance and put number in box.

3 = Major Preference, 2 = Medium Preference, 1 = Minor Preference

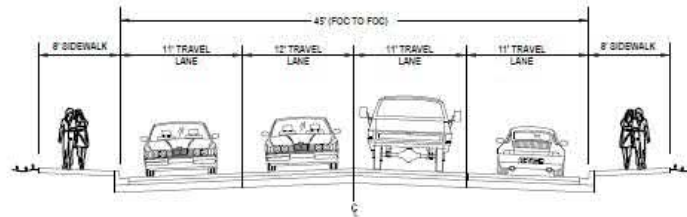
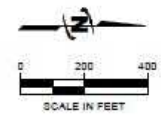
EXAMPLE

	B	C	D
A -->	A - 1	A - 3	D - 2
B -->		B - 2	D - 3
C -->			D - 2

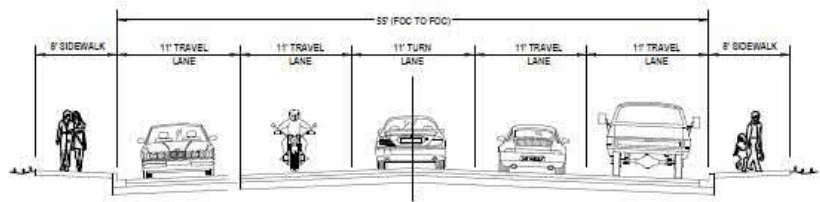
	B -- Improves Appeal	C -- Move Traffic/Reduce Commute Time	D -- Mobility and Connectivity for Alternate Modes	E -- On-Street Parking	F -- Property Impacts	G -- Safety
A - Cost						
B -- Improves Appeal						
C -- Move Traffic/Reduce Commute Time						
D -- Mobility and Connectivity for Alternate Modes						
E -- On Street Parking						
F -- Property Impacts						



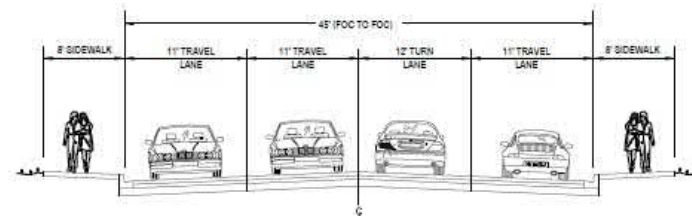
SITE PLAN VIEW



C STREET CROSS SECTION
SCALE: NONE (LOOKING NORTH)



A STREET CROSS SECTION
SCALE: NONE (LOOKING NORTH AND SOUTH)



B STREET CROSS SECTION
SCALE: NONE (LOOKING NORTH)

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www.jub.com

PRELIMINARY PLANS
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1	ISSUED FOR PERMIT	07/15/2024
2	FOR REVIEW	
3	FOR REVIEW	
4	FOR REVIEW	
5	FOR REVIEW	
6	FOR REVIEW	
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8	FOR REVIEW	
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10	FOR REVIEW	

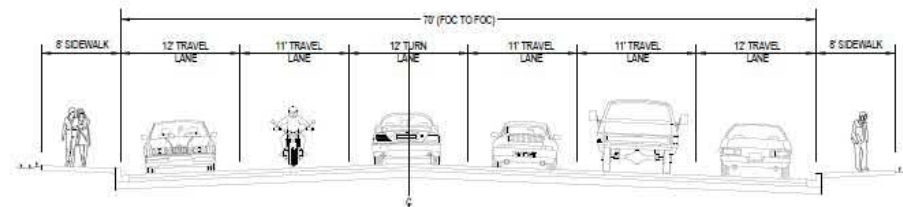
CENTRAL RICHLAND STUDY
EXISTING CONDITIONS

DATE: 07/15/2024
JOB NO: 24-001
DRAWN BY: JUB
CHECKED BY: JUB
DATE: 07/15/2024
SHEET NUMBER: 101

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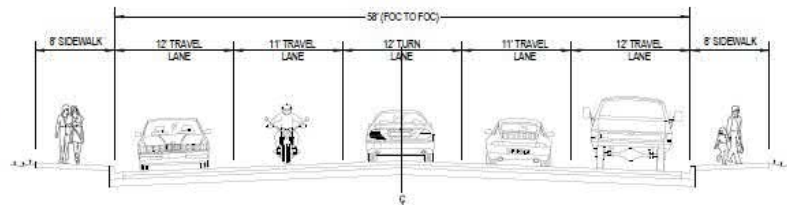


SITE PLAN VIEW

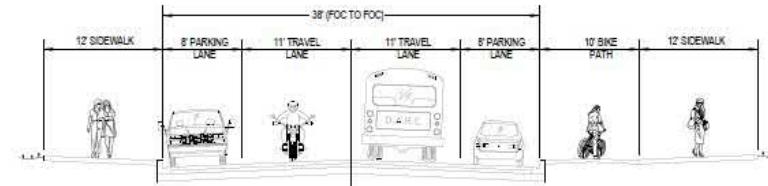


C STREET CROSS SECTION
SCALE: NONE (LOOKING SOUTH)

- LEGEND**
- = EXIST. ROAD ALIGNMENTS
 - = VACATE AREAS (APPROX.)
 - = PROPOSED ROAD ALIGNMENTS
 - = ROAD OPTIONS
 - = EXIST. ROAD C/L
 - = ROAD OPTION C/L
 - = EXIST. ROW



A STREET CROSS SECTION
SCALE: NONE (LOOKING NORTH AND SOUTH)



B STREET CROSS SECTION
SCALE: NONE (LOOKING NORTH)



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PRELIMINARY
PLANS

NOT FOR
CONSTRUCTION

DESIGNED BY: JADWIN OPTION
CHECKED BY: JADWIN OPTION
DATE: 10/1/19
BY: JADWIN OPTION
DATE: 10/1/19

CENTRAL RICHLAND STUDY

JADWIN OPTION

SHEET: JADWIN OPTION
ADD PROJ # 19-0001
DRAWN BY: JADWIN
DESIGN BY: JADWIN
CHECKED BY: JADWIN
DATE: 10/1/19
AT FULL SIZE, 8 1/2" X 11" (NOT TO SCALE)
LAST UPDATED: 10/1/19
SHEET NUMBER:

100

**PEDESTRIAN/BICYCLE
IMPROVEMENTS/ENHANCEMENTS**

PEDESTRIAN ISLANDS

Charleston, NC



Photo: City of Charlotte

Protected islands give pedestrians a comfortable way to cross, connecting businesses on both sides of East Boulevard.

BULB-OUTS



(Photo: Missoula Institute for Sustainable Transportation)

Bulbouts extend through the parking lane to make pedestrian crossing distances shorter, but do not conflict with the generous bike lanes.

Missoula, MT

GREEN STRIPS

East Boulevard

Charlotte, NC

Metro Population: 2,296,569 | City Population: 731,424



After (Phase 1)

Photo: City of Charlotte



Before (Phase 1)

Photo: City of Charlotte

This commuter corridor's redesign surprised early critics and now supports a café culture without significantly disrupting car traffic.

- Four auto lanes were converted to two auto lanes, two bicycle lanes and a center turn lane.
- Crosswalks were marked with a distinct paving pattern, and planted pedestrian refuge islands reduced the crossing distance.

ROAD DIET

Stone Way N.

Seattle, WA

Metro Population: 3,905,026 | City Population: 608,660



After

Photo: City of Seattle



Before

Photo: City of Seattle

Seattle improved safety and cycling rates without sacrificing car traffic capacity.

- Four lanes were converted to two lanes plus a center turn lane.
- A bicycle lane was added to the uphill side of the street and sharrows were added to a wider travel lane on the downhill side.

NARROWED LANES (ROAD DIET)



PEDESTRIAN BRIDGE



ROUND ABOUT



REDUCED SPEED LIMITS

25 mph

Grant Avenue in San Francisco runs through China Town. This narrow street is typically bustling with shops and street activity - keeping drivers alert and cautious.



Second Street, Long Beach, CA. Photo: Dave Amos

25 mph

With street trees, parallel parking, and frequent crossings, it feels natural to drive 25 miles per hour or less on Second Street in Long Beach, CA.

25 mph

With wide lanes, Ocean Boulevard once resembled an expressway more than an urban street, encouraging speeds much greater than the posted 25 mph speed limit.



Ocean Boulevard, Myrtle Beach, SC. Photo: Google

Grant Avenue, San Francisco, CA. Photo: Benji S. Swan

RAISED SPEED HUMP CROSSWALKS



Source: City of Cambridge

Pedestrian crosswalks opposite the cycle track were also raised.

Western Avenue

CAMBRIDGE, MASSACHUSETTS

Metro pop: 4,794,447 | City pop: 110,651



Source: City of Cambridge



Source: Google Maps

This connection from a major commercial square to the Charles River and Boston resulted in benefits for all modes of transportation.

- A six foot wide raised cycle track with a three foot wide buffer and pervious pavement was constructed.
- Planted curb extensions help address stormwater management and improve aesthetics.
- Transit stops were improved with new shelters or benches.

Main Street (US 62)

Hamburg, NY

Metro Population: 1,135,509 | City Population: 9,409

ADDITIONAL MID-BLOCK CROSSINGS



After

Photo: Laura Hackathorn



Before

Photo: Laura Hackathorn

This small village revived its city center by working with the State Department of Transportation on its downtown streets.

- Pedestrian improvements included mid-block pedestrian crossings, landscaping and sidewalk extensions.
- Traffic calming strategies were employed, including narrowed lanes and roundabouts.

FLASHING CROSSWALKS



WIDER CROSSWALKS



Higgins Avenue

Missoula, MT

Metro Population: 110,977 | City Population: 66,788

DISTINCT CURB



After

Photo: City of Missoula Bicycle/Pedestrian Office



Before

Photo: Missoula Institute for Sustainable Transportation

A road diet with a cycle track invites “interested but concerned” cyclists to Higgins Avenue.

- Four travel lanes were converted to five, including two cycle tracks, two auto lanes and a center turn lane. On-street parking remained.
- A cycle track was constructed by extending the curb to the outside of the bike lane.
- New landscaping and sidewalks were installed to enhance the pedestrian environment.

SIDEWALK BUFFER



AFTER

Source: Alta Planning + Design



BEFORE

Source: Google Maps

The state's first cycle track bridges gaps in city's bicycle access through a downtown corridor.

- In 2015, the City of Lincoln installed a curb-protected two-way cycle track between 23rd Street and Arena Drive that includes bioswale planter beds in some sections.
- Green paint clearly highlights the cycle track where it crosses intersections as well as turn boxes to provide an extra level of protection for cyclists.

SHADE



Everett, WA



Barracks Row (8th Street SE)

Washington, DC

Metro Population: 5,860,342 | City Population: 601,723

LIGHTING



After

Photo: Peter Hingwald



Before

Photo: Barracks Row Main Street

Rebranded as “Barracks Row” and rehabilitated to be an attractive street, 8th Avenue SE was brought back to life after decades of decline.

- The dilapidated streetscape was replaced with wider brick sidewalks, American Elm trees, landscape planters, bike racks and new street lighting.
- Parallel parking was switched to angled parking on several blocks, adding 55 parking spaces.
- Two blocks of one-way street were returned to two-way.
- Paving patterns and cobblestones were installed to slow traffic.

SIDEWALK FURNITURE



WAYFINDING



RITEUTE

W. Lancaster Boulevard

Lancaster, CA

Metro Population: 158,000 | City Population: 156,633

PEDESTRIAN MALL



After

Photo: Greg Komar



Before

Photo: City of Lancaster

W. Lancaster Boulevard's successful redesign led to \$130 million in private investment.

- 2 travel lanes and a center turn lane were converted to diagonal parking and plaza space in the center of the street.
- Street trees, benches, and landscaping were added along sidewalks and in the new median.

STRATEGIC USE OF TREES AND PUBLIC ART

A GREENER CORRIDOR



The medians along the route received attention; the City implemented a landscape design plan to add some color and shade.

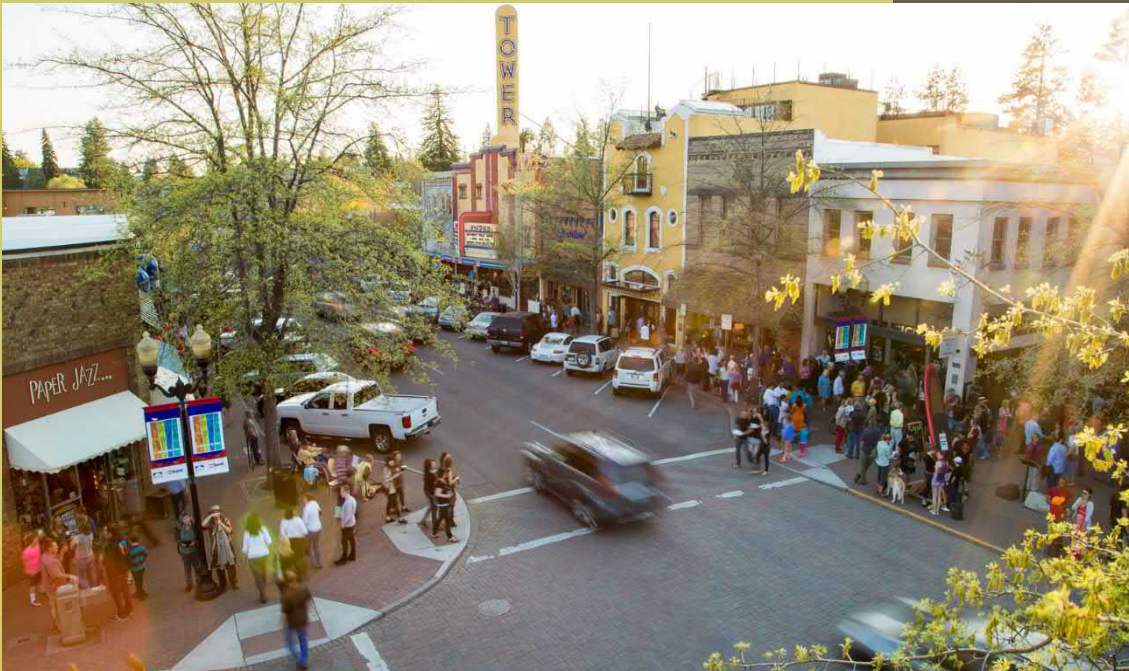
Madison, WI

Bolder, CO

TRANSIT STOP ARTWORK



Every surface of the transit “superstop” on 28th Street is richly detailed and adorned with art.



Bend, OR

REFERENCES

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Downtown Connectivity Study

Community Advisory Committee

Meeting #3 Summary

Tuesday December 3, 2019 1:00 – 4:00 PM
Richland City's Shops Room 110, 2700 Duportail Street, Richland

Community Advisory Committee (CAC) Membership (listed alphabetically by organization)

- 20s Plenty (Laila Krowiak)
- Alliance for a Livable Community (Jim Wise)
- Ben Franklin Transit (Bill Barlow)
- Bike Tri-Cities (Francesca Maier)
- Boost Build (John Crook)
- Columbia Basin College (Brian Dexter)
- Economic Development Committee, City of Richland (Brad Bricker)
- Emergency Services, City of Richland (Police Department, Chris Lee and Eric Edwards)
- Parks and Recreation Commission, City of Richland (Jim Buelt)
- Planning Commission, City of Richland (Kyle Palmer)
- Red Lion Richland (Zac Carter)
- Sterlings Restaurant (Jim Sterling)
- Uptown Business Improvement District (Gus Sako)
- Washington State University (Ray White)
- Visit Tri-Cities (Michael Novakovich)
- Youth representative (Colin Berry)

Project Team

- City of Richland (Pete Rogalsky, Julie West, John Deskins, John Deskins, Kerwin Jensen)
- J-U-B ENGINEERS (Spencer Montgomery, Ben Hoppe)
- The Langdon Group (Bryant Kuechle, Caroline Mellor, Tia Schleiger)

Additional Organizations with Members Unable to Attend

- ADA Committee, City of Richland
- Bell Furniture
- Energy Northwest
- ERA Sun River Realty/ Shareldan Property Management
- Farmer's Market
- Kadlec Regional Medical Center
- Richland School District
- Pacific Northwest National Laboratory (PNNL)
- Parkway Business Improvement District
- Port of Benton
- Tri-Cities Regional Chamber
- US Dept of Energy - Richland Office

Project Goals Statement

The purpose of this Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown. The project team will develop, evaluate and prioritize street improvements in the area of George Washington Way between Williams Boulevard and Bradley Boulevard, a one-mile stretch. Street improvements are to include pedestrian, bicycle and other downtown enhancements and amenities. Ultimately the findings and recommendation will be presented to City Council for selection of a preferred approach.

Meeting Goal

To review and discuss the results of the alternative evaluation process; to reach CAC recommendation for a preferred alternative; for CAC members to determine committee consensus in support of the recommended alternative to bring to the public for feedback.

Agenda Items Summary

Welcome and Introductions

- Bryant Kuechle, The Langdon Group, presented the goals of the meeting and reiterated appreciation for the time CAC members give to the Study.

Alternative Analysis

- Spencer Montgomery, J-U-B Engineers, recapped the existing four draft alternatives. These are:
 - a) *No Build* – No changes to the current roadway configuration.
 - b) *Couplet* – One-way between G Way (Northbound) and Jadwin Avenue (Southbound). Traffic analysis indicates that three lanes on each corridor would provide acceptable Levels of Service.
 - c) *Jadwin Option* – Jadwin Avenue becomes main through corridor; G Way becomes local 2-lane street. Traffic analysis indicates three lanes each direction on Jadwin Avenue would be needed which is good news as conceivably it could have needed four.
 - d) *Road Diet* – Three lanes total on G Way and Jadwin; one each direction and a center turn lane. Remaining roadway width re-purposed for other uses.
- CAC Members asked for clarification on the initial designs presented of the alternatives. Montgomery elaborated that the Jadwin Option would have significant impacts to existing businesses along the corridor; the Couplet would impact a hotel lot but not the building. The City will undertake a more detailed design process before implementing any alternative.
- Montgomery presented the ranked results from the alternative evaluation and walked CAC members through an explanation of the scoring process. The alternative ranking result is:
 - 1) *Couplet*
 - 2) *Road Diet*
 - 3) *Jadwin Option*
 - 4) *No Build*
- In review of the alternative evaluation process, Montgomery recapped the criteria definitions of the criteria decided by the CAC at Meeting #2 (see Table A below) and explained the scoring methodology used for each criterion in the analysis process (see Table B below). Discussion items included:

- Montgomery clarified that while the No Build scored highest on the cost and construction criterion, this result should be understood in the context that the No Build does not offer any options to accomplish the goals of the Study.
 - *Improves appeal criteria* – CAC members shared interest to clarify the operationalized definition of the criteria, relating to the congestion of cars as a factor that affects appeal. Discussion demonstrated different ideas about whether congestion of cars positively or negatively effects appeal.
 - *Parking criteria* – CAC members examined different ways to calculate opportunity for increased on-street parking by width of square feet or linear feet and whether to calculate by peak time or off peak.
 - *Safety criteria* – Members expressed a desire to refine the analysis of safety as related the impact of the number of lanes pedestrians must cross. Initial analysis indicated equal exposure between the three lanes of the Couplet and Road Diet alternatives. CAC members asked that these not be considered equivalent. Members stated that, in their experience, crossing multiple lanes in one direction felt more dangerous than the same number of lanes in two directions.
 - Construction impacts - CAC members asked for clarification on the potential construction impacts of the alternatives, in particular, if sewer and other utilities would move. Project team members confirmed that utilities will not be moved.
 - *Moves Traffic/Reduces Commute Time* – A brief explanation of Level of Service (LOS) was given, indicating delay experienced at intersections and that the City standard is LOS “D” for intersections as a whole. It was explained that the Couplet and Jadwin Alternative will function with acceptable LOS but that the Road Diet Alternative will cause considerable congestion. The traffic analysis shows that four intersections on George Washington Way would likely have severe congestion at LOS “F” and that this would likely result in diversion of traffic into adjacent streets serving the nearby neighborhoods.
 - In discussion of the criteria overall, Montgomery and Kuechle emphasized that different criteria are created to evaluate different elements of evaluation.
- The project team and CAC concluded that the appropriate next step is for the project team to re-examine the analyses for the criteria of Improves Appeal, Parking and Safety. The project team will circle back with the CAC electronically before taking the results to the public for feedback.
 - CAC members stated that overall they are comfortable with the process and feel that the project team executed a transparent structure for the CAC.

Table A. Evaluation criteria and weights from Meeting #2

Criteria	Definition	Weight
Safety	Allows for the safe movement of people in all forms (automobiles, bicycle, pedestrian, transit, disability aid) considering conflict points.	10
Improves Appeal	Attracts visitors, new residents and businesses to the downtown and the adjacent waterfront in support of tourism, small businesses, and residents’ experience in the urban environment with natural features (Columbia River).	8

Mobility and Connectivity for Alternate Modes	Focus on moving “people” in all forms (bicycle, pedestrian, disabled, transit, etc.), in all directions, in support of the economic vitality, healthy living and healthy environment considering the context of the environment, specifically the ability for residents to safely connect on foot or with disability aid from nearby neighborhoods to the downtown and from downtown to the waterfront.	8
Property Acquisition Impacts	Number of properties fully and/or partially acquired.	5
Construction Impacts	Severity of inconvenienced activities during construction.	4
Cost	Easier to implement considering right-of-way, engineering and construction of roadway changes.	4
Move Traffic/Reduce Commute Time	Accommodates the efficient movement of north-south automobile traffic through Richland.	4
Parking	Provides opportunity for additional on-street parking and wayfinding signs to existing available parking lots.	3

Note on Tables A. & B.: Criteria weighted the same were ordered alphabetically in the above table.

Table B. Evaluation Criteria as Modified to Enable Scoring

Criteria	Considerations in the Scoring Process	Weight
Safety	Number of thru/left turn vehicular conflicts; G Way characteristics (number of lanes + speed limit); Pedestrian crossing score (based off lanes to cross); Jadwin characteristics; Jadwin pedestrian crossing score; Bike lane characteristics (number of lanes).	10
Improves Appeal	Area gained for potential alternate modes; Changes in travel patterns; Congestion.	8
Mobility and Connectivity for Alternate Modes	Potential number of bike lanes; Potential for additional mid-block crossings; Potential for pedestrian refuge; Potential for bulb-outs at intersections (bulb-out = extension of curb at intersection); Potential for wider sidewalks.	8
Property Acquisition Impacts	Number of full parcels impacted; Number of partial parcels impacted.	5
Construction Impacts	End point treatments; Impacts on G Way; Impacts on Jadwin Ave.	4
Cost	Low and high range construction cost + right-of-way acquisition cost = total average cost.	4
Move Traffic/Reduce Commute Time	Intersections with a level of service (LOS, ability to move traffic score) of E or F, considered a poor score; movements within intersections with LOS of E or F.	4
Parking	Linear feet gained for potential parking on G Way; Traffic influence on G Way (implies ease of parking use); Linear feet gained for potential parking on Jadwin; Traffic influence on Jadwin.	3

Notes on Table B.

- Shaded rows indicated criterion that the project team re-analyzed based on CAC feedback.

Enhancements Survey Results

- Caroline Mellor, The Langdon Group, reviewed the results of the CAC member survey on potential downtown, pedestrian and bicycle enhancements. This survey served to highlight the preferences of CAC members for future downtown amenities; data will be integrated with the upcoming public survey. The survey results highlighted interest in:
 - Mid-block crossings
 - Bike lanes buffered by landscaping
 - Bulb-outs (extension of curb at the mouth of an intersection)
 - Wider sidewalks
 - Increased bicycle parking
- Technology impacts - CAC members discussed the potential use of technology to adapt to congestion and the integration new transportation technology, such as electronic scooters. Project team members stated that these suggestions will be included in the final report as items for further consideration. The Visit Tri-Cities CAC representative shared that a related ordinance for the region is currently in discussion.

Action Items & Next Steps

- The project team will re-examine the analyses for the criteria of Improves Appeal, Parking and Safety. The project team will circle back with the CAC electronically before taking the results to the public for feedback.
- Upcoming public involvement opportunities: A public open house and survey will follow, likely in January. CAC members will be asked to circulate notification to their organizations and represented interest groups.

Downtown Connectivity Study

Community Advisory Committee

Meeting #3 Agenda

Tuesday Dec. 3, 2019 1:00 – 4:00 PM
Richland City's Shops Room 110, 2700 Duportail Street, Richland

Agenda	Time
Welcome and Introductions – Bryant Kuechle, The Langdon Group <ul style="list-style-type: none">• Introductions (Name, Representing)• Review agenda	1:00– 1:15
Alternative Analysis - Spencer Montgomery, JUB Engineers <ul style="list-style-type: none">• Alternatives recap• Pair Wise weighting• Results and ranking• Scoring process• Discussion	1:15 – 2:30
<i>BREAK</i>	2:30 – 2:45
Enhancements – Bryant Kuechle <ul style="list-style-type: none">• Survey results• Discuss potential application to preferred alternative	2:45 – 3:45
Next Steps and Wrap-up – Bryant Kuechle <ul style="list-style-type: none">• Public involvement next steps• Schedule	3:45 – 4:00



Couplet Alternative



Jadwin Alternative



Road Diet Alternative

Downtown Connectivity Study **Evaluation Criteria** **Criteria Weighting Matrix**

Compare A to B and decide which is most important and put letter in box.
 Next determine difference in importance and put number in box.
 3 = Major Preference, 2 = Medium Preference, 1 = Minor Preference

EXAMPLE

	B	C	D
A -->	A - 1	A - 3	D - 2
B -->		B - 2	D - 3
C -->			D - 2

	B -- Improves Appeal	C -- Move Traffic/Reduce Commute Time	D -- Mobility and Connectivity for Alternate Modes	E -- On-Street Parking	F -- Property Impacts	G -- Safety
A -- Cost						
B -- Improves Appeal						
C -- Move Traffic/Reduce Commute Time						
D -- Mobility and Connectivity for Alternate Modes						
E -- On Street Parking						
F -- Property Impacts						

Downtown Connectivity Study

Community Advisory Committee Criteria Weighting Results

Criterion	Combined CAC		
	Total Raw Score	Normalized	Percent of Total
A - Cost	92	4	9%
B - Improves Appeal	184	8	17%
C - Moves Traffic/Reduce Commute Time	104	4	9%
D - Mobility	201	8	17%
E - Parking	75	3	7%
F - Property Acquisition Impacts	120	5	11%
G. Construction Impacts	92	4	9%
H - Safety	240	10	22%
Total	1108	46	100%

Downtown Connectivity Study

Alternative Evaluation Scoring Results

Criterion	Criteria Weight	Alternative							
		A		B		C		D	
		No-Build		Couplet		Jadwin		Road Diet	
		Raw	Wt.	Raw	Wt.	Raw	Wt.	Raw	Wt.
Cost	4	10.0	40.0	5.4	21.6	0.0	0.0	8.8	35.2
Improves Appeal	8	5.0	40.0	7.0	56.0	7.9	63.2	7.0	56.0
Move Traffic/Reduce Commute Time	4	9.0	36.0	7.3	29.0	8.8	35.0	0.0	0.0
Mobility and Conectivity for Alternate Modes	8	3.0	24.0	8.5	68.0	7.5	60.0	10.0	80.0
Parking	3	0.0	0.0	6.8	20.4	5.0	15.0	5.8	17.4
Property Acquisition	5	10.0	50.0	6.5	32.5	0.5	2.5	10.0	50.0
Construction Impacts	4	10.0	40.0	3.0	12.0	1.0	4.0	6.0	24.0
Safety	10	0.5	5.0	7.0	70.0	3.0	30.0	3.5	35.0
TOTAL SCORE		37.5	195	46.1	288	33.7	210	42.3	262
ALTERNATIVE RANK		3	4	1	1	4	3	2	2

Downtown Connectivity Study

Cost

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Low Range Construction Cost	\$ 500,000	\$ 6,100,000	\$ 10,900,000	\$ 1,900,000
High Range Construction Cost	\$ 1,000,000	\$ 11,100,000	\$ 13,400,000	\$ 6,100,000
Right-of-Way Acquisition Cost	\$ -	\$ 4,100,000	\$ 14,833,700	\$ -
Average Total Cost	\$ 750,000	\$ 12,700,000	\$ 26,983,700	\$ 4,000,000
TOTAL SCORE	10.0	5.4	0.0	8.8

Notes:

Construction Cost includes Preliminary Engineering, Construction and Construction Engineering.

A range of costs was prepared with the average cost being used for scoring purposes.

Points assigned based on straightline interpolation between highest and lowest cost.

Downtown Connectivity Study

Improves Appeal

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Area gained for potential alternate modes	-	147,000	115,800	147,000
Points for Area Gained (5 pts)	0.0	5.0	3.9	5.0
Change in Travel Patterns (2 pts)	2	0	1	2
Congestion (3 pts)	3	2	3	0
TOTAL SCORE	5.0	7.0	7.9	7.0

Notes:

Area gained points assigned up to 5 points based on straightline interpolation of highest area gained to lowest area gained.

Appeal of Parking accounted for in other criteria.

Downtown Connectivity Study

Moves Traffic/Reduces Commute Time

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Intersections with LOS E or F	0	0	0	7
Movements with LOS E or F	4	11	5	26
TOTAL SCORE	9.0	7.3	8.8	0.0

Notes:

Subtract 1 point for each intersection below LOS D.

Subtract 1/4 point for each movement below LOS D.

G Way/Williams Overall	B	C	D	B
G-Way/Williams movements	ok	1E	1 F	1 E
G-Way/Swift Overall	B	D	A	F
G-Way/Swift Movements	ok	ok	ok	4 Fs
G-Way/Knight Overall	A	A	A	F
G-Way/Knight Movements	ok	ok	ok	2 Es, 2 Fs
G-Way/Lee Overall	A	A	A	F
G-Way/Lee Movements	ok	ok	ok	3 Es, 1 F
G-Way/Jadwin Overall	B	D	C	F
G-Way/Jadwin Movements	1 E	ok	ok	2 Es, 2 Fs
Jadwin/Williams Overall	B	C	B	B
Jadwin/Williams movements	1 F	3 Es	ok	ok
Jadwin/Jadwin (new North) Overall	N/A	D	D	N/A
		1 E	1 E	
Jadwin/Swift Overall	B	D	C	E
Jadwin/Swift Movements	ok	1 F	1 E	3 Es
Jadwin/Knight Overall	B	D	B	E
Jadwin/Knight Movements	1 F	3 Es	2 Es	1 E, 2 Fs
Jadwin/Lee Overall	C	C	C	E
Jadwin/Lee Movements	1 E	2 Es	ok	1 E, 2 Fs

Downtown Connectivity Study

Mobility and Connectivity for Alternate Modes

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Potential Number of Bike Lanes (4 Points)	0	4	2	4
Potential for additional mid-block crossings (1.5 Points)	1.5	1.5	1.5	1.5
Potential for pedestrian Refuge (1.5 points)	1.5	0.0	1.5	1.5
Potential for bulb-outs at Intersections (1.5 points)	0.0	1.5	1.0	1.5
Potential for Wider Sidewalks (1.5 points)	0.0	1.5	1.5	1.5
TOTAL SCORE	3.0	8.5	7.5	10.0

Notes:

Relative scoring between all alternatives, greatest benefit received highest score, least benefit received lowest score.

Downtown Connectivity Study

Parking

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Area gained for potential parking, GW Way	0	69,800	115,800	69,800
Score for Area Gained on GW Way (3 points)	0.0	1.8	3.0	1.8
Traffic Influence GW Way	N/A	medium volume/ medium speed	low volume/ low speed	high volume/ medium speed
Score for Traffic Influence on GW Way (2 points)	0	1	2	0.5
Area gained for potential parking, Jadwin	0	77,200	0	77,200
Score for Area Gained on Jadwin (3 points)	0.0	3.0	0.0	3.0
Traffic Influence, Jadwin	N/A	medium volume/ medium speed	N/A	high volume/ medium speed
Score for Traffic Influence on Jadwin (2 points)	0	1	0	0.5
TOTAL SCORE	0.0	6.8	5.0	5.8

Notes:

Points for Area Gained assigned based on straightline interpolation between highest and lowest area by corridor.

Traffic influence considers speed and lane utilization (ability of traffic to go around a vehicle in process of parking).

Downtown Connectivity Study

Property Acquisition

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Number of full parcels impacted	0.0	4.0	13.0	0.0
Number of partial parcels impacted	0.0	6.0	12.0	0.0
TOTAL SCORE	10.0	6.5	0.5	10.0

Notes:

Subtract 0.5 points for each full parcel acquisition requiring relocation.

Subtract 0.25 points for each partial parcel acquisition.

Downtown Connectivity Study

Construction Impacts

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
End Point Treatments (4 points)	4.0	1.0	0.0	4.0
George Washington Way (3 points)	3.0	1.0	1.0	1.0
Jadwin Ave (3 points)	3.0	1.0	0.0	1.0
TOTAL SCORE	10.0	3.0	1.0	6.0

Up to 4 points for End Point Treatments depending on the magnitude of likely impacts. Relative scoring between all alternatives, most impacts received lowest score, least impacts received highest score.

Up to 3 points for George Washington Way and Jadwin Avenue corridor impacts depending on the magnitude of likely impacts. Relative scoring between all alternatives, greatest impacts received lowest score, least impacts received highest score.

Downtown Connectivity Study

Safety

Criterion Inputs	Alternative			
	A	B	C	D
	No-Build	Couplet	Jadwin	Road Diet
Thru/Left Turn Vehicular Conflicts	2,041,505	594,925	2,260,275	2,041,505
Percentage of Highest # of Conflicts	90%	26%	100%	90%
Vehicle Conflicts Score (up to 4)	0.5	4.0	0.0	0.5
George Washington Way characteristics	5 lanes, 35 MPH	3 lanes, 30 MPH	2 lanes 25 MPH	3 lanes, 30 MPH
George Washington Way pedestrian crossing score (up to 2 points)	0.0	1.0	2.0	1.0
Jadwin Characteristics	5 lanes, 30 MPH	3 lanes, 30 MPH	7 lanes 30 MPH	3 lanes, 30 MPH
Jadwin Avenue pedestrian crossings score (up to 2 points)	0.0	1.0	0.0	1.0
Bike lane characteristics	no bike lanes	4 bike lanes	2 bike lanes	4 bike lanes
Bicycle Lanes score (up to 2 points)	0.0	2.0	1.0	2.0
TOTAL SCORE	0.5	7.0	3.0	3.5

Notes:

Vehicle Conflict Score is up to 4 points assigned with straightline interpolation between lowest and highest number of combined through and left turning vehicular conflicts.

For Pedestrian Crossing Score subtract 0.5 points for each 5 MPH above 25, and subtract 0.5 points for each additional lane to cross above 2 lanes.

Other criterion accounts for traffic impacts outside study area and non-traditional free left turns.

Summary of CAC Survey - Pedestrian, Bicycle and Downtown Enhancements

Percentage of CAC Survey respondents that ranked enhancement as top priority:

Respondents: 15 CAC members

Question 1. Importance of Different Downtown Features:

1. Mid-block crossing – 60% (9)
2. Bike Lanes – 20% (3)
3. Reduced speed limit (13%) (2)
4. Wayfinding – 7% (1)
5. On-street parking parallel – 0
6. On-street parking – diagonal – 0
7. No action - 0

Question 2. Crossing Features Prioritization:

1. Bulb-out – 43% (6)
2. Pedestrian island – 21% (3)
3. Flashing crosswalk – 13% (2)
4. Mid-block crossing – 13% (2)
5. Wider crosswalks – 7% (1)
6. Pedestrian bridge – 7% (1)
7. Raised speed hump crosswalk – 0%
8. No action – 0

Question 3. Sidewalk Features Prioritization:

1. Wider sidewalks – 43% (6)
2. Grassy strips – 21% (3)
3. Distinct curb – 21% (3)
4. Increased trees – 14% (2)
5. No action – 7% (1)
6. Sidewalk furniture – 0
7. Street art – 0
8. Patio seating - 0
9. Increased lighting - 0
10. Increased shade - 0

Question 4. Bike Lane Features Prioritization:

1. Bike lane buffer - Landscaping serves as buffer between bicyclists & cars – 36% (4)

2. Bike lane buffer - Parked cars serve as the buffer between bicyclists & cars – 26% (3)
3. Bike lane buffer - Designated space serves as the buffer between cars & bicyclists – 26% (3)
4. Bike lane painted a different color than car lanes – 8% (1)
5. Streets for bikes marked with Shared Lane Markings ("sharrows") - 0
6. No action -0

Question 5. Bicycle Infrastructure Facility Prioritization:

1. Increased bicycle parking – 50% (7)
2. No action 29% (4)
3. Bicycle signals at intersections – 21% (3)
4. Tire repair stations -7% (1)

PEDESTRIAN ISLANDS

+ Mid-Block Crossing

Charleston, NC



Photo: City of Charlotte

Protected islands give pedestrians a comfortable way to cross, connecting businesses on both sides of East Boulevard.

BULB-OUTS



Bulbouts extend through the parking lane to make pedestrian crossing distances shorter, but do not conflict with the generous bike lanes.

Missoula, MT

N Street

LINCOLN, NEBRASKA

Metro pop: 326,921 | City pop: 280,364



Source: Alta Planning + Design



Source: Google Maps

SIDEWALK BUFFER

The state's first cycle track bridges gaps in city's bicycle access through a downtown corridor.

- In 2015, the City of Lincoln installed a curb-protected two-way cycle track between 23rd Street and Arena Drive that includes bioswale planter beds in some sections.
- Green paint clearly highlights the cycle track where it crosses intersections as well as turn boxes to provide an extra level of protection for cyclists.

WAYFINDING



Downtown Connectivity Study Community Advisory Committee Meeting #4 Summary

Wednesday March 18, 2020 3:00 – 4:30 PM
Zoom Online Meeting

Community Advisory Committee (CAC) Membership (listed alphabetically by organization)

- 20s Plenty (Laila Krowiak)
- Alliance for a Livable Community (James Wise)
- Ben Franklin Transit (Bill Barlow)
- Bike Tri-Cities (Francesca Maier)
- Boost Build (David Lippes)
- Emergency Services, City of Richland (Police Department, Eric Edwards)
- Farmer's Market (Kristin Suter)
- Parks and Recreation Commission, City of Richland (Jim Buelt)
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- Youth representative (Colin Barry)

Project Team

- City of Richland (Pete Rogalsky, Julie West, John Deskins, Kerwin Jensen, Mandy ____)
- J-U-B ENGINEERS (Spencer Montgomery, Ben Hoppe)
- The Langdon Group (Caroline Mellor)

Additional Organizations with Members Unable to Attend

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- Pacific Northwest National Laboratory
- Parkway Business Improvement District
- Planning Commission, City of Richland
- Port of Benton
- Red Lion Richland
- Richland School District
- Sterlings Restaurant
- Tri-Cities Regional Chamber
- Washington State University
- US Dept of Energy - Richland Office
- Visit Tri-Cities

Project Goals Statement

The purpose of this Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown. The project team will develop, evaluate and prioritize street improvements in the downtown corridor. Street improvements are to include pedestrian, bicycle and other downtown enhancements and amenities. Ultimately the findings and recommendation will be presented to City Council for selection of a preferred approach.

Meeting Goals

- To share public input received from the open house and survey.
- For the CAC to provide feedback on a potential change to the draft street system recommendation.
- For CAC members to provide further input on street enhancement features selection.

Agenda Items Summary

Welcome and Introductions

- Caroline Mellor, The Langdon Group, presented the purpose of the meeting and reviewed the meeting format and opportunities for interaction with the Zoom online platform.

Review of Public Input

- Mellor reviewed the public input received from the open house and survey. The public input open-ended comments and survey data illustrated:
- Of those that indicated a preference for the couplet or a concern about the couplet as shown at the open house and survey, a majority indicated they could support the couplet.
- Total comments received:
 - Survey responses: 1,155
 - Survey Question #6 - Open-ended responses: 650
 - Survey Question #12 - Open-ended responses: 657
 - Open House attendees: 81
 - Open House comments: 33
 - Public input data is an aggregate of 1342 comments
- Overall interest in a vibrant, safe, walkable downtown that allows for the efficient movement of vehicle traffic.
- Respondents that provided input on the recommended couplet design expressed a variety of concerns with the couplet as shown, these were:
 - Congestion
 - Expanded segment
 - Social impacts and effects on low-income housing
 - On-street parking
 - Bicycle and car interaction
 - Ability to adjust to a couplet
 - Access to businesses/ public spaces
- In reference to downtown, commenters also noted:

Question #5: The consultant team and CAC's work indicates that the One-Way Couplet is the best alternative to meet the dual objectives of improving pedestrian and bicycle accessibility and sustaining vehicular traffic flow. Can you support this finding?

Question #6: If you answered "no" to question #5, please share your concerns.

Question #12: Do you have any other comments that you would like the City to consider?

- Preference for the vision of the road diet
- Need more information on Study traffic analysis to be able to comment
- Respondents also used this public input opportunity to express concerns for priorities outside of downtown. These comments included:
 - By-pass priority
 - Differing vision for downtown
 - Funding concerns
 - Parking overall
 - North Richland Bridge
- Full details of the public input comments and survey data will be included in the Final Report.

Proposed Changes to Draft Street System Recommendation

- *Mellor informed the CAC that after analysis of the public input, the project team created a revised couplet suggestion to address and mitigate concerns brought forward in the public input.*
- Spencer Montgomery, JUB Engineers, presented an extended couplet for CAC review.
 - The extended couplet would continue northbound on George Washington Way to Symons Street and the Southbound direction would use Symons Street as the transition from southbound George Washington Way to Southbound Jadwin.
 - The new design would also involve less property impacts, less construction impacts, including eliminating the need to remove low-income housing.
 - The new concept also would include the Uptown area as well.
- CAC members discussed the proposed couplet extension, discussion items included:
 - Preference for the new design due to the ability to link with existing City parks, including Jefferson Park, without interfering with existing infrastructure.
 - Views that the new design would increase business at the Uptown and include the Uptown more in the general circulation pattern.
 - Symons as a major walk route to Jefferson Elementary and concern to ensure school children needs are considered in further design.
 - Interest to ensure Symons continues to function as a usable bicycle route for families; shared that Symons currently provides a linkage from East-West for neighborhoods and the River.
 - Need to consider existing patterns of 18-wheeler trucks.
 - Interest to make sure that non-motorized travel needs are considered in full design.
- The City shared appreciation for voiced concerns by the CAC and expressed that these concerns could be addressed in the next design stage of the couplet. The City emphasized that the treatments on Symons and George Washington Way will provide fully protected crossing signals and significantly increased comfort for pedestrians.
- Decision Question: Do you support the new extended couplet as the CAC recommended couplet design? → Recommendation: Yes.

Process Note: The CAC vote was collected through the use of the chat function in Zoom. Committee members were given the option to state “Yes,” “No,” or “Yes – with a caveat.” All caveats were listed in the Zoom chat, are captured in the above discussion item list and are items that can be addressed in subsequent design phases. All responses were either “Yes” or “Yes – with a caveat.”

Street Enhancement Feature Selection

- Mellor presented additional public input feedback regarding downtown, pedestrian and bicycle enhancements. The feedback demonstrated an emphasized pedestrian safety and comfort, particularly through wider sidewalks, buffers between sidewalks and cars, new trees, increased lighting, distinct curbs and new mid-block crossings. For the type of bicycle lane, respondents expressed interest in as well as buffered bicycle lanes and an overall interest
- Mellor and Montgomery presented to the CAC options and considerations to choose a type of bicycle lane for the length of the corridor.
 - Options:
 - 6-foot bike lane
 - Buffered bike lane, 8-feet wide, including barrier
 - Buffered cycle track, both directions of travel, 8-feet wide with a few more feet of buffer
 - Contraflow lane, opposite direction of travel
 - Recommendation: 8-foot bike lanes, including a barrier, one-way (in the direction of travel).
 - Notes:
 - Recommendation seen as safest to minimize conflicts
 - South end of Jadwin may warrant a different type of bike lane.
 - CAC discussion items included:
 - Expressed excitement for buffered bicycle lanes.
 - Interest to ensure design stage includes plan for turning movements and bicyclist changing direction, such as bicyclist access to mid-block destinations.
 - To consider the integration of segways and electric bikes.
 - To ensure bicycle lanes are designed to be safe for residents of all ages and bicyclist abilities.
 - For the design stage to consider the effects of vehicle turn lanes on bicycle crossing distances, safety and movements.
 - Impacts of climate change on demands for non-motorized traffic.
 - Decision Question: What is the CAC's preferred style of bicycle lane for the corridor?
 - Decision: CAC agreed with the recommendation for bicycle lane treatment: one-way bike lanes with buffer.
- Mellor and Montgomery presented options and considerations for choosing a combination of on-street parking and wider sidewalks.
 - Recommendation (noted in table):

Segments	On-street Parking	Wider Sidewalks
GW Way: Jadwin to Knight	On-Street Parking	Widen by 6 feet*
GW Way: Knight to Swift	None	Extra wide sidewalks by 14 feet*
GW Way: Swift to Symons	On-Street Parking	Widen by 6 feet*
Jadwin: GW Way to Swift	None	Widen by 3 feet*
Jadwin: Swift to Symons	On-Street Parking	Wider by 6 feet*

- Considerations:

- Separates safety conflicts that could arise from bicycle and parked car interaction.
- Allows new on street parking to orient to the Parkway.
- Parking design keeps future options open around the Uptown.
- Jadwin from GW Way to Swift has the least amount of extra room.
- Decisions can be implemented parcel by parcel.
- *To be modified in detailed design.
- CAC discussion items included:
 - Agreement with the approach to separate on-street parking and bicycle lanes.
 - Wider sidewalks near John Dam Plaza – Some CAC members preferred wider sidewalks to provide a larger public plaza and a safety buffer between cars and the public during events; a few others preferred on-street parking for events.
 - Consideration of building height to sidewalk ratios.
 - Interest in the sense of vibrancy and future opportunities created by wider sidewalks.
 - Interest in a 25-mile per hour operating speed for the corridor.
 - Overall interest in a safe and complete street active transportation network.
 - From Ben Franklin Transit (BFT): “BFT needs at least 8' in depth for a required ADA loading pad (5'wide x 8' deep), e.g. wide sidewalks are GREAT in the direction of travel. The 8' depth can be provided across any level minimum grade hard surface, i.e. sidewalk + buffer or bike lane if necessary.”
 - Parking will be the default as the corridor improvements will likely be phased. As each phase occurs, the City can work with adjacent property owners to determine the appropriate mix of parking or wider sidewalks.
- Decision Question: For each of the segments of the extended couplet, can you support the recommended combination of on-street parking or wider sidewalks?
 - Decision: CAC agreed with recommendation.

Action Items & Next Steps

- The City will outreach to Uptown Businesses to notify businesses of the new extended couplet recommendation and to solicit feedback from businesses.
- The project team will notify CAC members of the dates for the Study to be presented at Planning Commission and City Council and the date of the Final Report’s publication on the project website.
- Upcoming public involvement opportunities: Members of the public may give comment to Planning Commission and City Council when the Study is presented to Council. The final Council date will be posted on the project website.

Downtown Connectivity Study

Community Advisory Committee

Meeting #4 Agenda

Wednesday March 18, 2020 3:00 – 4:30 PM

Zoom Video Conference: <https://jubengineers.zoom.us/j/745336739>

Meeting Goals:

- To share public input received from the open house and survey.
- For the CAC to provide feedback on a potential change to the draft street system recommendation.
- For CAC members to provide further input on street enhancement features selection.

Welcome and Introductions – Caroline Mellor, The Langdon Group <ul style="list-style-type: none">• Introductions (Name, Representing)• Review agenda• Meeting Purpose	3:00– 3:05
Review of Public Input – Caroline Mellor <ul style="list-style-type: none">• Open house and survey themes and results• Implications of public input	3:05 – 3:20
Proposed Changes to Draft Street System Recommendation - Spencer Montgomery, JUB Engineers, and Caroline Mellor <ul style="list-style-type: none">• Present proposed changes to draft recommendation• CAC vote on proposed changes	3:20 – 3:45
Street Enhancement Feature Selection – Caroline Mellor and Spencer Montgomery <ul style="list-style-type: none">• Present enhancement feature recommendations• CAC provide feedback on enhancement features• CAC select enhancement features	3:45 – 4:15
Wrap-up – Pete Rogalsky, City of Richland and Spencer Montgomery <ul style="list-style-type: none">• Next steps• Thank you	4:15 – 4:30

Public Input Overview: Key Takeaways from Survey and Open House



Overall: Couplet can provide a means toward a more walkable, vibrant downtown.



Concerns with Implementation of couplet



Interest to lessen any perceived negative effects



Expression of interest in other City priorities



Today's Opportunity: Address these concerns

Public Input Overview - Responses Received

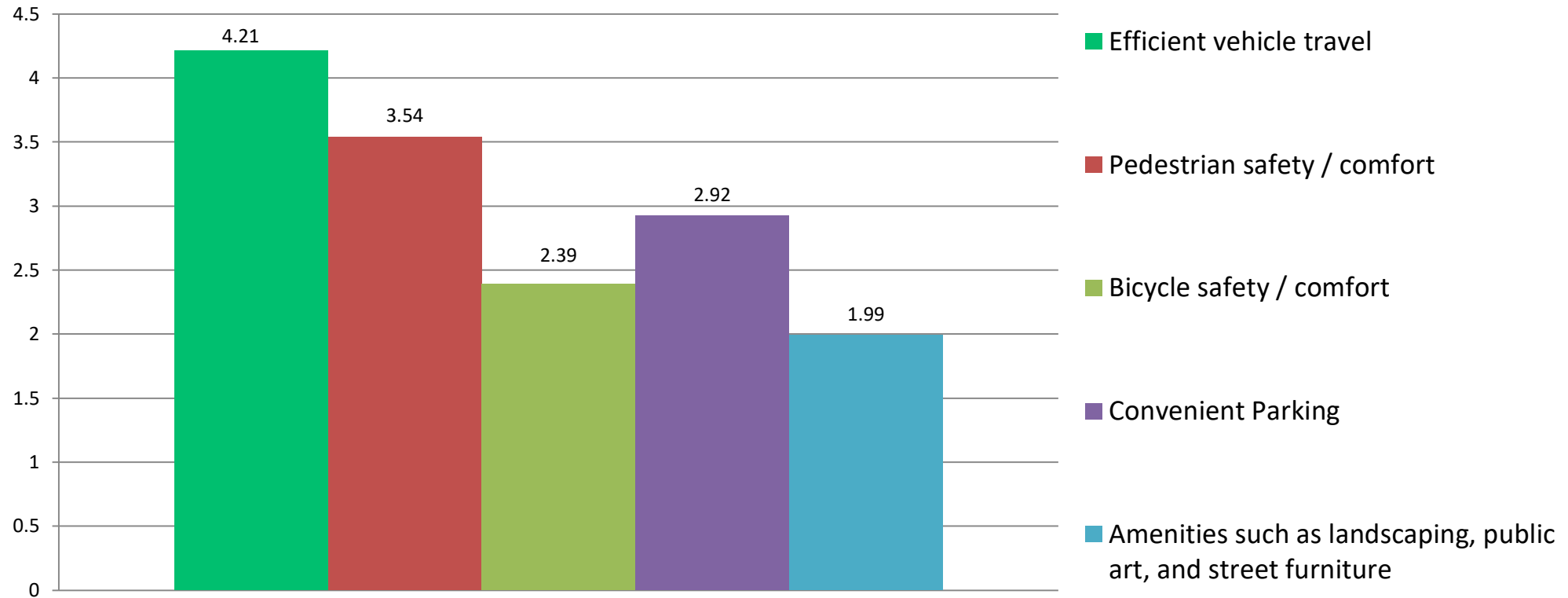
- ▶ Public input data is an aggregate of 1342 comments
- ▶ Survey responses: 1,155
- ▶ Survey Question #6 - Open-ended responses: 650
- ▶ Survey Question #12 - Open-ended responses: 657
- ▶ Open House attendees: 81
- ▶ Open House comments: 33

Public Input Overview - Open House

Switch share screen to PDF view of Couplet Design shown at the Open House.

Public Input Overview: Survey Data - Qualities for Downtown

Q4: Respondents Ranked Priorities for the qualities desired for the Downtown Street System.



Public Input Overview: Survey Data

Of those that responded to Q5 (1,144 total):

- ▶ 507 indicated they supported the findings
- ▶ 637 indicated they could not.
- ▶ Of those, as determined through content analysis of Q6, (received 650 comments)
 - ▶ 45% indicated they did not support because they had priorities for the city OUTSIDE of downtown
 - ▶ 55% indicated concerns about the couplet and could not support it as shown at the open house or in the survey.
- ▶ Comments regarding other priorities will be captured in the final report.
- ▶ **Of those that indicated a preference for the couplet or a concern about the couplet as shown at the open house and survey, a majority indicated they could support the couplet.**

Question #5: The consultant team and CAC's work indicates that the One-Way Couplet is the best alternative to meet the dual objectives of improving pedestrian and bicycle accessibility and sustaining vehicular traffic flow. Can you support this finding?

Question #6: If you answered "no" to question #5, please share your concerns.

Question #12: Do you have any other comments that you would like the City to consider?

Public Input Overview: Comment Themes

Downtown Related Comments:

- ▶ Couplet Design:
 - ▶ Congestion downtown
 - ▶ Begin couplet further North
 - ▶ Social impacts and effects on low-income housing
 - ▶ On-street parking
 - ▶ Bicycle and car interaction
 - ▶ Ability to adjust to a couplet
- ▶ Access to businesses/ public spaces
- ▶ Preference for vision of road diet
- ▶ Prefer downtown as commuter corridor
- ▶ Parking as a priority

Comments on other priorities:

- Congestion Concerns:
 - By-pass priority
 - North Richland Bridge
- Funding concerns

Street System Recommendation: Proposed Expanded Couplet Alternative

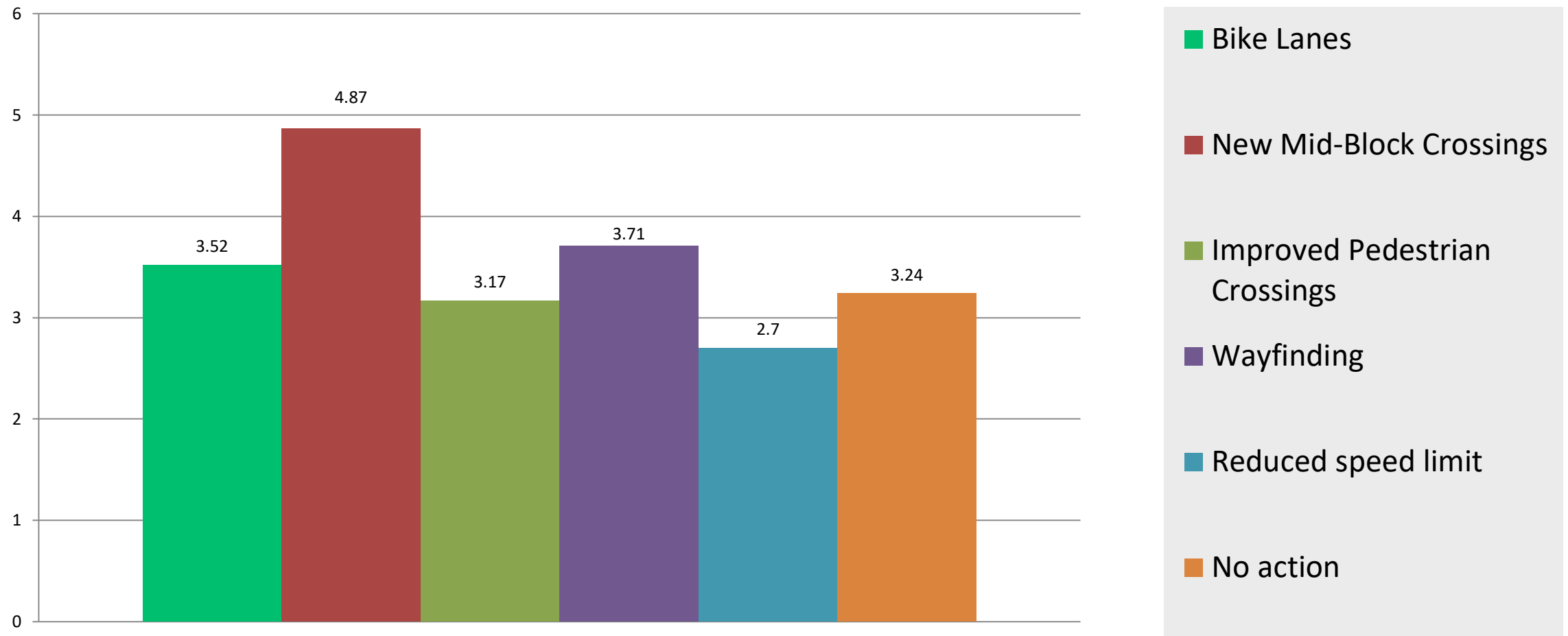
Switch share screen to PDF view.

Street System Recommendation: Discussion and CAC Vote

- ▶ Decision Question: Do you support the new extended couplet as the CAC recommended couplet design?

Public Input Overview: Survey Data - Downtown Features

Q7: Respondents Ranked Importance for Different Downtown Features.

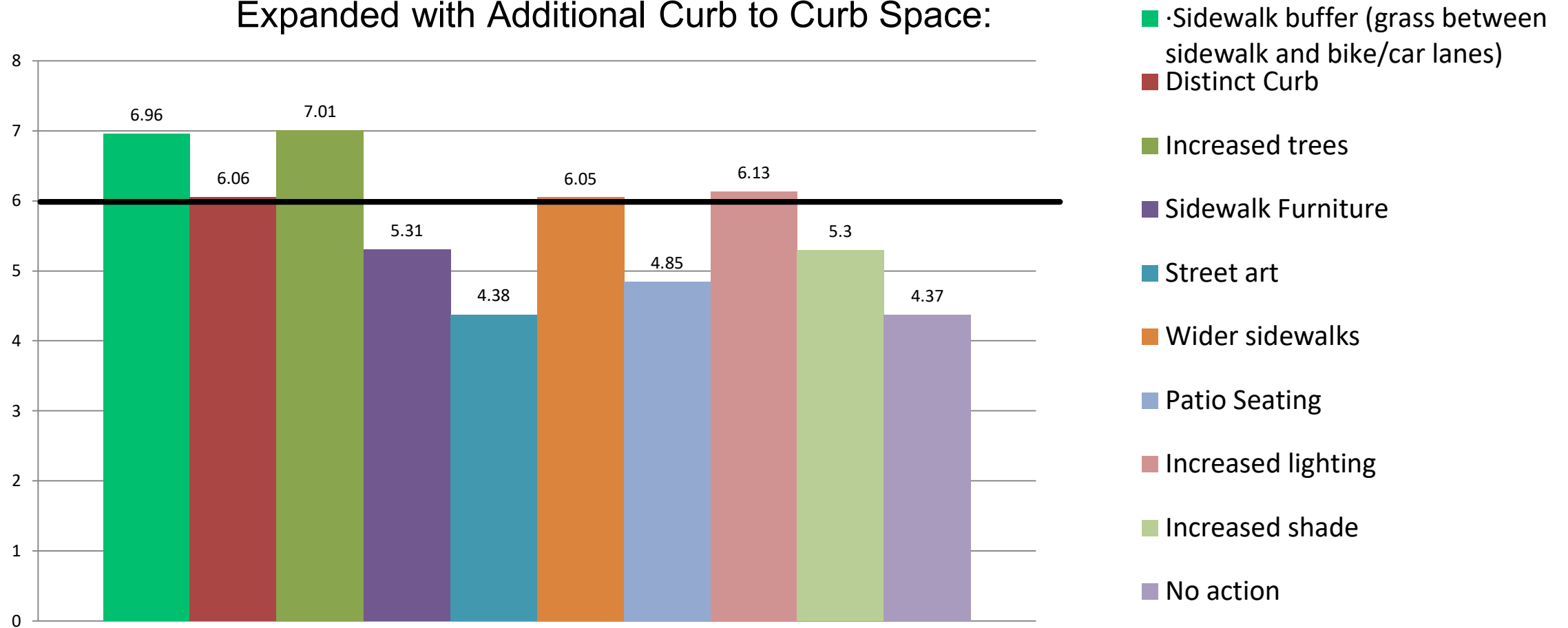


Public Input Overview: Survey Data - Bike Lane Features

- ▶ Survey Data illustrated a general preference for buffered bicycle lanes.

Public Input Overview: Survey Data - Sidewalk Features

Q9: Respondents Ranked Preferences for Sidewalk Features that could be Expanded with Additional Curb to Curb Space:



Street Enhancement Feature Selections: Overview of Decision Points for Today

Features:

- ▶ Type of bicycle lane
- ▶ Sidewalk width
 - ▶ Trees
 - ▶ Lighting
- ▶ On-street parking

Corridor sections of extended segment:

- George Washington Way: Jadwin to Knight
- George Washington Way: Knight to Swift
- George Washington Way: Swift to Symons
- Jadwin Avenue: GW Way to Swift
- Jadwin Avenue: Swift to Symons

Street Enhancement Feature Selections: Bike Lanes Decision

Decision Question: What is the CAC's preferred style of bicycle lane for the corridor?

Keep in mind:

- ▶ Bike lanes should be treated the same throughout most of the corridor.

Options:

- ▶ 6-foot bike lane
- ▶ Buffered bike lane, 8-feet wide, including barrier
- ▶ Buffered cycle track, both directions of travel, 8-feet wide with a few more feet of buffer
- ▶ Contraflow lane, opposite direction of travel

Recommendation: 8-foot bike lanes, including a barrier, one-way (in the direction of travel).

Notes:

- ▶ Recommendation seen as safest to minimize conflicts
- ▶ South end of Jadwin may warrant a different type of bike lane.

Street Enhancements Feature Selections: On-Street Parking and Wider Sidewalks Decisions

Decision Question: For each of the below segments of the extended couplet, can you support the recommended combination of on-street parking or wider sidewalks?

Recommendation:

Segments	On-street Parking	Wider Sidewalks
GW Way: Jadwin to Knight	On-Street Parking	Widen by 6 feet*
GW Way: Knight to Swift	None	Extra wide sidewalks by 14 feet*
GW Way: Swift to Symons	On-Street Parking	Widen by 6 feet*
Jadwin: GW Way to Swift	None	Widen by 3 feet*
Jadwin: Swift to Symons	On-Street Parking	Wider by 6 feet*

Considerations:

- Separates safety conflicts that could arise from bicycle and parked car interaction.
- Allows new on street parking to orient to the Parkway.
- Parking design keeps future options open around the Uptown.
- Jadwin from GW Way to Swift has the least amount of extra room.
- Decisions can be implemented parcel by parcel.
- *To be modified in detailed design.

Street Enhancement Feature Selection: Review of CAC Decisions

CAC Decisions made at Today's meeting #4:

- ✓ Bike lane design -
- ✓ On-street parking -
- ✓ Wider sidewalks -

Wrap-Up

- ▶ Next Steps
- ▶ Expected Follow-Up
- ▶ Thank you!

ALTERNATIVES CONSIDERED

All alternatives include the opportunity for pedestrian crossing safety features and other amenities.

Couplet Alternative



Description of Alternative: George Washington Way and Jadwin Ave become one-way streets with three lanes each; George Washington Way lanes go North bound and Jadwin Ave lanes go Southbound.

Road Diet Alternative



Description of Alternative: George Washington Way and Jadwin Avenue are narrowed to one-lane each way with a turn lane in the middle.

Jadwin Option Alternative



Description of Alternative: Jadwin Ave becomes the main thoroughfare, with 3 lanes each way plus a turn lane in the middle; George Washington Way becomes a local road, with one lane each way and left-turn lanes at existing intersections.

No Build Alternative



Description of Alternative: No street network changes.

DOWNTOWN, PEDESTRIAN & BICYCLE AMENITIES UNDER CONSIDERATION

DOWNTOWN FEATURES



Bike lanes



Wayfinding



Improved Pedestrian Crossings



On-street parking

BICYCLE INFRASTRUCTURE FACILITIES



Bicycle signals

- ALSO:
- Increased bicycle parking
 - Tire repair stations

CROSSING FEATURES



Pedestrian islands



Curb extensions/bulb-outs



Raised speed hump crosswalks



Additional mid-block crossings



Flashing crosswalks



Wider crosswalks



Pedestrian bridge

SIDEWALK FEATURES



Grassy strips/buffer



Distinct curb



Patio seating



Sidewalk furniture

- ALSO:
- Increased trees
 - Street art
 - Wider sidewalks
 - Increased lighting
 - Increased shade

BIKE LANE FEATURES



Painted bike lanes



Bike lane buffer - raised barrier



Bike lane buffer - landscaping



Bike lane buffer - designated space

EVALUATION CRITERIA

Criteria	Definition	Considerations in the Scoring Process	Weight
Safety	Allows for the safe movement of people in all forms (automobiles, bicycle, pedestrian, transit, disability aid) considering conflict points.	Number of thru/left turn vehicular conflicts; G Way characteristics (number of lanes + speed limit); Pedestrian crossing score (based off lanes to cross); Jadwin characteristics; Jadwin pedestrian crossing score; Bike lane characteristics (number of lanes).	10
Improves Appeal	Attracts visitors, new residents and businesses to the downtown and the adjacent waterfront in support of tourism, small businesses, and residents' experience in the urban environment with natural features (Columbia River).	Area gained for potential alternate modes; Changes in travel patterns; Congestion.	8
Mobility and Connectivity for Alternate Modes	Focus on moving "people" in all forms (bicycle, pedestrian, disabled, transit, etc.), in all directions, in support of the economic vitality, healthy living and healthy environment considering the context of the environment, specifically the ability for residents to safely connect on foot or with disability aid from nearby neighborhoods to the downtown and from downtown to the waterfront.	Potential number of bike lanes; Potential for additional mid-block crossings; Potential for pedestrian refuge; Potential for bulb-outs at intersections (bulb-out = extension of curb at intersection); Potential for wider sidewalks.	8
Property Acquisition Impacts	Number of properties fully and/or partially acquired.	Number of full parcels impacted; Number of partial parcels impacted.	5
Cost	Easier to implement considering right-of-way, engineering and construction of roadway changes.	Low and high range construction cost + right-of-way acquisition cost = total average cost.	4
Move Traffic/Reduce Commute Time	Accommodates the efficient movement of north-south automobile traffic through Richland.	Intersections with a level of service (LOS, ability to move traffic score) of E or F, considered a poor score; movements within intersections with LOS of E or F.	4
Parking	Provides opportunity for additional on-street parking and wayfinding signs to existing available parking lots.	Linear feet gained for potential parking on G Way; Traffic influence on G Way (implies ease of parking use); Linear feet gained for potential parking on Jadwin; Traffic influence on Jadwin.	3
Construction Impacts	Severity of inconvenienced activities during construction.	End point treatments; Impacts on G Way; Impacts on Jadwin Ave.	3

ALTERNATIVES RANKING & RECOMMENDATION

CRITERION	Criteria Weight	ALTERNATIVE							
		A		B		C		D	
		No-Build		Couplet		Jadwin		Road Diet*	
		Raw	Wt.	Raw	Wt.	Raw	Wt.	Raw	Wt.
Cost	4	10.0	40.0	4.6	18.4	0.0	0.0	8.4	33.6
Improves Appeal	8	4.0	32.0	7.5	60.0	7.7	61.6	8.0	64.0
Move Traffic / Reduce Commute Time	4	9.0	36.0	7.5	30.0	8.8	35.0	0.0	0*
Mobility and Connectivity for Alternate Modes	8	3.0	24.0	8.5	68.0	7.5	60.0	10.0	80.0
Parking	3	0.0	0.0	8.0	24.0	4.5	13.5	7.0	21.0
Property Acquisition	5	10.0	50.0	6.5	32.5	0.5	2.5	10.0	50.0
Construction Impacts	4	10.0	40.0	3.0	12.0	1.0	4.0	6.0	24.0
Safety	10	0.5	5.0	8.0	80.0	3.0	30.0	5.0	50.0
TOTAL SCORE		47	227	54	325	33	207	54	323
ALTERNATIVE RANK		4		1		3		2	

* Note: The Road Diet Scores 0 under the Moves Traffic/Reduce Commute Time due to the failure of 7 intersections that do not meet the Level of Service Standard. This is a fatal flaw of this alternative which goes against one of the main objectives of the study which was to "advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown". As much as the Road Diet would advance many of the desired bicycle and pedestrian mobility aspects of the study, that alternative cannot be recommended.

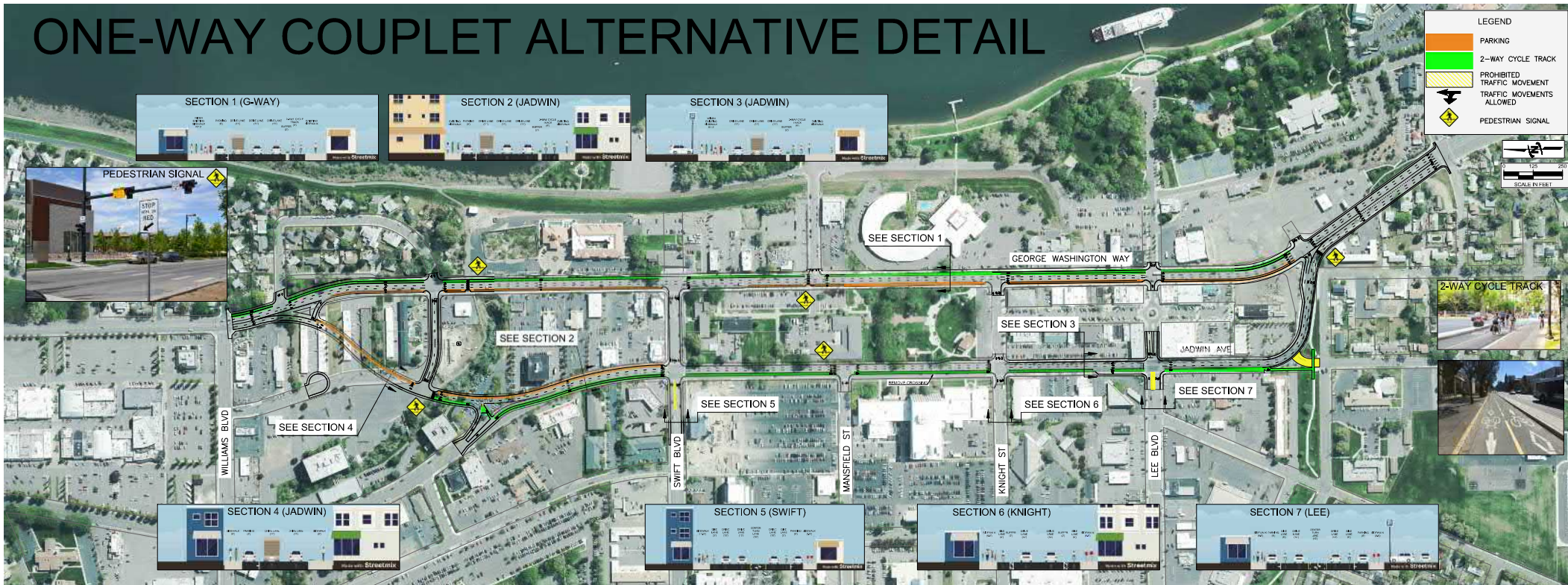
COMMUNITY ADVISORY COMMITTEE

The Community Advisory Committee (CAC) met three times between October and December to develop a mutual understanding of the study, identify alternatives and develop criteria for alternative selection. The CAC assigned weight to each criteria and in December reviewed the preliminary results of the evaluation of alternatives. The CAC agreed with the alternative ranking created by the study method and that the process and the results it produced was fair, inclusive and collaborative.

CAC Membership (listed alphabetically by organization):

- 20s Plenty
- ADA Committee, City of Richland
- Alliance for a Livable Community
- Ben Franklin Transit
- Bell Furniture
- Bike Tri-Cities
- Boost Build
- Columbia Basin College
- Energy Northwest
- Economic Development Committee, City of Richland
- Emergency Services, City of Richland
- ERA Sun River Realty/ Shareldan Property Management
- Farmer's Market
- Kadlec Regional Medical Center
- Pacific Northwest National Laboratory (PNNL)
- Parks and Recreation Commission, City of Richland
- Youth representative, Parks and Recreation Commission, City of Richland
- Parkway Business Improvement District
- Planning Commission, City of Richland
- Port of Benton
- Red Lion Richland
- Richland School District
- Sterlings Restaurant
- Tri-Cities Regional Chamber
- Uptown Business Improvement District
- US Dept of Energy - Richland Office
- Washington State University
- Visit Tri-Cities
- Project team

ONE-WAY COUPLET ALTERNATIVE DETAIL



Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

John Fox 509-375-0117
2614 HARRIS AVE jfoxishere@charter.net
RICHLAND WA 99354

Comments regarding the roadway alternatives:

1. B. Couplet is best but costly
2. A. No build is next because it costs nothing
3. C. Jadwin only is out of the question because widening is costly & destructive
4. D. Road Diet is out of the question because it chokes traffic irresponsibly.

Carol Moser when on Council in early 2000's pushed for Couplet and Jerry Abrams held off building his Jadwin Ave office bldg. when that concept never gained traction

Comments regarding the potential downtown, bicycle and pedestrian amenities:

the needs are overstated unless a lot more people live in or near downtown.
Tri-Cities are copying motto Phoenix area whether we like it or not
We will need a downtown public parking garage for people coming to attractions & events.
access to south Jadwin is cut off and shifts in + out to Cullum (?) in front of post office & intersection with Lee is too close to upper Jadwin. Some day that would have to be looked at.

Additional comments or questions:

The City should aggressively promote building of apartment & or condos in and near downtown area by offering property swaps ~~for~~ to Business Research Park along SR 240 to industrial businesses along south end of Stevens Dr & Wellisiam Way and maybe the downtown laundry if they can be persuaded. maybe something could be worked with vacant Albertson property. We need more people living downtown.

MAIL, FAX, OR EMAIL COMMENTS TO:

J-U-B ENGINEERS, Inc.
2810 W Clearwater Ave #201
Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

PLEASE SUBMIT COMMENTS BEFORE

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Darrell Fisher
229 Saint St.
Richland, WA

Jeanne Fisher

509-539-3223

logicum@yahoo.com

Comments regarding the roadway alternatives:

The idea that people will walk to or from the downtown loop is NUTS. or to bicycle. We aren't that type of people.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

- ① Do the following: Synchronize the traffic lights on GW way to accommodate Hanford traffic.
- ② Work with Washington State to synchronize the lights on the bypass.

Additional comments or questions:

MAIL, FAX, OR EMAIL COMMENTS TO:

J-U-B ENGINEERS, Inc.
2810 W Clearwater Ave #201
Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

PLEASE SUBMIT COMMENTS BEFORE

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Paul Carlisle 2348 Harris Ave
Richland WA 99354
paul@elevator.net

Comments regarding the roadway alternatives:

terminating 1-way prior to the uptown seems short-sighted.
Why not run 1-way thru the end of Jackson @ new corner?

Comments regarding the potential downtown, bicycle and pedestrian amenities:

- Bikers need to come from and go somewhere.
- The Jackson ^{bike} lanes need to get to the uptown.
- The Green lanes need to get to Columbia Point

Additional comments or questions:

Why does Guyer Ave have to exist?

It's a great ped-friendly opportunity to
get separated from the park path
to Jackson.

MAIL, FAX, OR EMAIL COMMENTS TO:

PLEASE SUBMIT COMMENTS BEFORE

J-U-B ENGINEERS, Inc.
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Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Ginger Wireman 2435 MICHAEL AVE RICHLAND WA
iweccan@gmail.com

Comments regarding the roadway alternatives:

② Lower Gway & Jadwin to 30mph

③ One way streets are fine - But so is turning corners. Make GWAY/Jadwin one way Gillespie to Symons. Turn a corner, go around the block, just like SEA, PDX, Boise. I don't support removing 'affordable' housing to speed traffic through town.

④ Level of service is less important than pedestrian safety. ~~to~~ Spending money to partner w/ BFT & Contractors to get people out of SO.V's should be a priority.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Please don't add substandard bike lanes.

Any changes should be preceded^{ed} by good, extensive public education campaigns. Sharrows are scary.

Additional comments or questions:

People need more than 11P in the Utility Mailer

I am disappointed that the ^{work} messaging isn't integrated w/ the discussion about the Bypass - and that THAT discussion doesn't PROMOTE Ride Sharing and getting people out of cars.

MAIL, FAX, OR EMAIL COMMENTS TO:

PLEASE SUBMIT COMMENTS BEFORE

J-U-B ENGINEERS, Inc.
2810 W Clearwater Ave #201
Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Kathy E. Thompson
415 Albert Ave
Richland, WA 99352

Comments regarding the roadway alternatives:

240, George Washington Way, Tadwin, & Davenport
are still majorly used to get
to and from home!

Interest isn't to be slowed down, but to
get home on moving Salwin - Cost, where?

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Perhaps place a pedestrian ~~enclosed~~ walkway
nearest to Lee & George Wash. Way.

Additional comments or questions:

People are not considering the type of
community it is we are - desert,
smaller town ideas + set up. A community
is made up of the type of people, the climate,
the land, its leadership.

MAIL, FAX, OR EMAIL COMMENTS TO:

PLEASE SUBMIT COMMENTS BEFORE

J-U-B ENGINEERS, Inc.
2810 W Clearwater Ave #201
Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

MARK KILLINGER, 4200 LAUREL DRIVE, WEST RICHLAND,
MARK.KILLINGER@HOTMAIL.COM

Comments regarding the roadway alternatives:

PREFER JADWIN OPTION. CONCENTRATION SHOULD BE ON ENHANCING G-WAY, & THIS CAN BE DONE BY SIPHONING OFF COMMUTER TRAFFIC TO JADWIN. DESIRE "MAIN STREET" FEEL, LIKE WALLA WALLA & LEWISTON. WIDER SIDEWALKS W/ TREES, SIDEWALK CAFES, WALKABLE. ONE-WAYS ARE ANNOYING, SO I RANK COUPLET ALTERNATIVE LOWER. 3-LANE G-WAY, ~~BOTH~~ WITH LOWER SPEED LIMIT SHOULD BE SAFE.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

IF PROPERTY ACQUISITION IS A BIG PROBLEM W/ JADWIN OPTION, GO FOR COUPLET.

Additional comments or questions:

SEVERAL YEARS AGO RICHLAND HIRED AN URBAN PLANNER WHO HAD EXCELLENT RECOMMENDATIONS LIKE THE JADWIN OPTION. LET JADWIN TAKE MORE TRAFFIC. G-WAY IS NEAR THE RIVER & SHOULD BE ENHANCED.

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Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Derek Archer, 641 Cottonwood Drive, Richland

Comments regarding the roadway alternatives:

Road diet alternative is unacceptable. The couplet alternative is the most reasonable to explore. Any alternative must keep car traffic as a priority. This is not downtown Seattle. The car is still king in the TC, and any modifications must acknowledge that.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

On-street parking has the potential to cause significant backups and frustration in the city. People will avoid congestion. Adequate dedicated parking is vital to ensure success of businesses.

Additional comments or questions:

NO Road diet. NO on-street parking. NO parking meters. Must require mixed-use developers to provide parking for all residents. Beware of eminent domain issues that could derail certain alternatives.

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Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Caroline Blackburn, 649 Cottonwood Dr., Richland, WA
719-231-8754 2caroline.blackburn@gmail.com

Comments regarding the roadway alternatives:

I oppose the Jadenwin Option. It cuts off traffic and potential business and interest in our downtown core.

I strongly prefer a road diet design because it will create opportunities to develop our "destination waterfront" downtown. It will slow traffic, which is good! Let the 240 bypass redesign take the traffic. Create a vibrant cultural center downtown. Somewhere people love to walk and visit. I also strongly believe that road diets will lead to better alternative transportation habits. People will begin to bike, walk and bus to destinations.

This being said, the Couplet Alternative is second best option. As long as it truly does become pedestrian and biker friendly.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Richland definitely needs protected bike lanes in the form of buffers built with landscaping. There needs to be wider crosswalks that are better marked (There are a lot of schools downtown!) Add to this, on-street parking, which will actually make streets safer by slowing it down. We must focus on slowing down traffic, and increasing alternative transportation.

Additional comments or questions:

Build and design to move people. NOT cars. As a parent and worker in downtown I want to see safer streets and a vibrant cultural area in our downtown. If you build for cars, you won't get these things. Build for people.

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Richland, WA

Comments regarding the roadway alternatives:

For a study to enhance connectivity between the river and downtown it spends all its time looking at moving commuters. How does that help to get people to move between the river and stores?

The road diet is the best option to enhance the vitality of downtown. One-way couples increase crashes unless the speeds are 20mph. Cities are turning streets to two-way traffic and benefiting!

Comments regarding the potential downtown, bicycle and pedestrian amenities:

The cycle tracks are nice to have but the issues with walking + biking downtown are with moving EAST-WEST between the river, parking, and the businesses! The alternatives do NOT address this at all!

Additional comments or questions:

It does not make sense to spend a lot of money and displace low-cost housing when we will lose street maintenance \$ from I-976.

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

GREG HOLBROOK
2223 CAMAS AVE
RICHLAND, WA geowela@gmail.com

Comments regarding the roadway alternatives:

NONE OF THE OPTIONS ALTERING FLOW OR LANE COUNT
FIX THE PROBLEM. NONE. THEY JUST CAUSE ADDITIONAL
CONGESTION AND TRAFFIC ON THE SIDE STREETS. STOP
WASTING OUR MONEY ON STUDIES FOR EXPENSIVE OPTIONS.
TIME THE LIGHTS TO 33-35 MPH AND EXPEDITE TRAFFIC THROUGH

Comments regarding the potential downtown, bicycle and pedestrian amenities:

WASTE OF MONEY. COMPLETE WASTE OF MONEY. THE "VISION"
OF MOVING AROUND THE CORE WILL NOT BE REALIZED BY SIGNS,
CROSS WALK SPEED BUMPS AND BIKE LANES. AS LONG AS THE ZONING
ALLOWS JUNKY SCARY SPACES, NO ONE WILL USE THE AMENITIES.

Additional comments or questions:

NO ONE CARES ABOUT WALKING AROUND BETWEEN JOHN DAM
AND THE UPTOWN.

TIME THE LIGHTS ON G. WAY,
JADWIN & STEVENS + PHOTO RADAR = PROBLEM SOLVED

MAIL, FAX, OR EMAIL COMMENTS TO:

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Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Julie Robertson

2112 Davison Ave, Richland, WA 99354

509 371 0930 warobertson@charter.net

Comments regarding the roadway alternatives:

I support the coupled alternative in general. However, I do worry about the loss of the parking lot south of 1100 Jadwin, which is fully used every business day.

Generally speaking, I want to express concern about parking along streets similar to what we now have along Lee & Stevens; parked cars impede vision when pulling out of parking lots into traffic. While the parking spots increase safety for those on the sidewalks, they decrease safety for cars pulling out of parking lots.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

I'd also beg the city to re-evaluate making any part of Jadwin one lane ea direction. At Williams and Jadwin, the intersection has become much busier & less safe as traffic now backs up at the light - and cars turning left across the backed up traffic now run red lights much more frequently.

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The following comments are submitted by (name, address, city/state, phone and/or email):

Theo maier Richland, WA

Comments regarding the roadway alternatives:

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

please may we have bike parking outside
Amethyst Creamery.

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Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

JAMES R DILLMAN

2523 GRANDA CT. RICHLAND WA 99354 509-375-0322

Comments regarding the roadway alternatives:

1. COMMENT ON G.W.W. TO JADWIN [SECTION 2]. PLEASE REVISE ROUTE IN FRONT OF COMMUNITY FIRST BANK / AERAMS BLDG. TO MISS SCULPTURE SALVAGED FROM UPTOWN SHOPPING AREA.

2. IMPROVE CHERRY CREEK, WHICH IS HISTORIC TO OLD RICHLAND (PREVIOUSLY) IT PASSES BEHIND JADWIN AVE, 6 STORY CONCRETE OFFICE BLDGS.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

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Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Jerry Sims
423 Snyder St
Richland WA 99354

Comments regarding the roadway alternatives:

Need to focus on bypass highway traffic issue before doing anything downtown. Bypass congestion pushes cars through downtown. Fixing the bypass will improve downtown traffic flow and safety more than any of these alternatives.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

I feel there is already plenty of bicycle and pedestrian opportunities & amenities. What is needed is additional parking for events at Howard Amon and John Day Plaza, like live at 5. Lack of convenient parking prevents me from attending many of these events.

Additional comments or questions:

Why not use old city hall area as additional parking for downtown?
Need more off street parking!!!

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Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Erin Sims

423 Snyder St

Richland WA 99354

epgilmour@gmail.com

Comments regarding the roadway alternatives:

Recommend focus be on addressing by pass traffic congestion in advance of ~~the~~ city center construction. By Pass is largest contributor to congestion & has the most urgent need to be addressed.

Suggest By Pass 1st & then work on Road construction in town.

Parking downtown needs to be addressed - Not All of us live in this area & Drive to events.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

biggest concern - Continued push to reduce parking in this area. Including the addition of Apts on . . . way with no recognition large population work outside of city center & have cars. Already challenged to get to events in this area due to reduced parking options.

Complex too large w/out thought to impact. They need designated Parking!

Additional comments or questions:

bike & walking paths are adequate.

Recommend old city bldg lots becomes part of centralized park w/ John Day, and add parking.

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Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

CHRIS DORAN

1516 JOHNSON AVE RICHLAND, WA

946-1175

JCDORAN@CHARTER

NET

Comments regarding the roadway alternatives:

I really don't like the Road Diet option but I understand that's a non-starter, so the COUPLET option is my clear preference. The T-junction option is terrible - it essentially destroys the walkability and bike riding for half of the downtown area that you are attempting to improve. Better to do nothing than put all the traffic on T-junction.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

- 1) No raised knee crosswalks - they're annoying to drive over & will necessarily slow traffic when no pedestrians are present.
- 2) House number banners separating bikes from cars, not just a line or low curb.
- 3) Or signal on-street parking zone? I suspect it will cause problems with people backing up.
- 4) Please do provide more mid-block crossings with flashing lights!
- 5) More trees!!
- 6) Be careful with lighting - avoid light pollution, mercury vapor lights, addressing stop sign.

Additional comments or questions:

- 1) Your summary rating poster has a math error. The no-build option is rated 4th and the T-junction option 3rd. In fact, the scores say those ratings should be reversed, i.e., T-junction should be 4th, no-build should be 3rd.
- 2) If you remain looking for new construction, you should plan for and provide additional housing for displaced families.

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Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Aaron Johnson
306 Armistead Ave, Richland, WA 99352
(509) 572-5538 aaron@rymanddevelopmentgroup.com

Comments regarding the roadway alternatives:

If the city is going to realize their goal of a redevelopment of the Swift Corridor, to create a "Place" then it is critical they perform the infrastructure to make it pedestrian friendly now. Without mitigating traffic patterns as they exist now, that are completely "commuter" focused, development of the type envisioned simply won't occur. Creating density of residents in the core in multi-family units, whether apartments or condos, won't be attractive to developers without doing what is necessary to make it attractive to residents. If street-level retail & commercial is added, residents won't frequent those businesses if they are taking their lives into their hands to get there. Either the one-way complete, or the traffic calming is the only way to accomplish this. I feel the focus is too heavily weighed to

Comments regarding the potential downtown, bicycle and pedestrian amenities: addressing the Hanford Commute.

Additional comments or questions:

I feel the Northtown traffic study should have been more heavily focused on making the Hanford commute via the 240 more efficient, to take the pressure off Javelin & GWW.

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Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Dianna Propson
2454 Alexander Ave.
Richland 509-947-2984

Comments regarding the roadway alternatives:

For what it is worth:

I remain a proponent of a North Richland bridge !!
This would reduce North-south traffic overall on G.W. Way
and make a downtown area more feasible and attractive.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

I think having the buffer area between the bike lane + traffic lanes
is very important. Glad to see it!
General Comment for all pedestrian crossings:
For the safety of pedestrians, consider lights at crossings for more of
the existing crosswalks, especially those at the traffic lights.

Additional comments or questions:

The board showing traffic moving (green lights) is very helpful.
Is anyone doing a study on the ^{expected} ~~proposed~~ population density after apart-
ments are completed, and if that density can support local businesses
within walking distance.

Thank you for having this community night.

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Colin Berry 213 Piper St. Richland WA Colin2205b@gmail.com

Comments regarding the roadway alternatives: 1 way couplet

near if the northern Point where the one way roads remerge near Williams was pushed North to syncs the ped. improvements could be built out to the uptown, the total acres of land required would be decreased and fewer impacts to low income housing would occur.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Purposed improvements look great

Additional comments or questions:

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Kr. Stanner@psky@gmail.com
Kr. Stanner@psky
81 Woodrop St, Richland, WA 99354

509 946-9125

Comments regarding the roadway alternatives:

3 lanes should help move cars more efficiently
seems like a great idea

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Love it! Safer and more pleasant for both

Additional comments or questions:

Cram in as many trees, bushes, benches and planter
as you possibly can.
Use interesting lighting poles (like that N Richland
or Stevens strip mall)
Use artwork etc where possible

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Ben Clatterback
575 Columbia Point Drive, Apt. A302 Richland, WA
509-554-2451, ben@roasterscoffee.net

Comments regarding the roadway alternatives:

Very much like the one-way couplet

Comments regarding the potential downtown, bicycle and pedestrian amenities:

The more street parking that can be added, the better.

Additional comments or questions:

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Suzanne Speer, Suziespeer@hotmail.com
1506 Birch Ave.
Richland, WA 99354

Comments regarding the roadway alternatives:

I want Padwin Ave. to be a one-way street
and George Washington Way to be a
one-way street.

At the Padwin Ave. - George Washington Way
intersection (south of the intersection) it
can remain a two-way street.

I hate it that Padwin Ave. was reduced
from four lanes to three lanes.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

I don't want any more bicycle lanes on
George Washington Way. Instead, I want a
bicycle lane on Hunt Ave.

Additional comments or questions:

I hate the idea to reduce
George Washington Way to a two lane street
and to have the bicycle lanes painted.
Twenty years ago, Sage Blvd. was reduced
from a four lane street to a two lane
street and the bike lane were painted.
People hated it because it was bumper to
bumper traffic.

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COMMENT FORM | Public Open House | Jan. 23, 2020

Sorry for sloppiness, I'm in a hurry.

The following comments are submitted by (name, address, city/state, phone and/or email):

Gary Peterseu

1426 Stevens Dr. Richland WA

509-460-0394 Leave message for me to get back.

Comments regarding the roadway alternatives:

I really don't like the 1 way option. It encourages higher speed & thus less safe. Costs \$ to implement and as I was told really does impact traffic flow over current.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

I like the mid-crossings and crossing lights. The lights in west Richland are amazing! I hadn't considered many of the options under consideration but I like them. The bike buffer w/ landscaping - though costly - is very inviting.

Additional comments or questions:

I feel that options are not all out there. Time of day traffic flow in a 1 way direction. - N in morning on G-way & S in evening. Normal 2 way other times. The Jadin option creates the best downtown friendly atmosphere. 25 mph on G-way & Jadin. Slower is safer & gets people stopping at businesses.

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The following comments are submitted by (name, address, city/state, phone and/or email):

Steve Ghan
300 Columbia Pt Dr H-131
Richland WA 99352

Comments regarding the roadway alternatives:

I like the Complete option.

The isolated bicycle track is important to me.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Reduce speed limit on G-way & Jadin.

Flashing pedestrian crossings of G-way & Jadin
Require bike racks at businesses

Painted bike lanes on cross streets

Additional comments or questions:

Thank you for ~~telling~~ involving us in making Richland
a more enjoyable place to live!

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The following comments are submitted by (name, address, city/state, phone and/or email):

Hannah Winters
hannahjwin@gmail.com

Comments regarding the roadway alternatives:

wondering about the possibility of angle parking for the cars where parking is planned for addition to the roadway, takes more width, but makes entry/exit to the spot much easier → decreases delay to traffic behind the parking car and I think gives more parking spots (I'm not a math major so triangles & squares are way past me, not sure if it actually gives more parking spots) other than that I think it looks great! (even without that I think it's great too)

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

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COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Stuart V Freeman
2320 Ferndale
Richland 99354

Comments regarding the roadway alternatives:

- ① Three lanes north and south is only maintaining the status quo in a different format. The population is going to steadily increase and there will be need for even more lanes very soon.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Bicycle lanes are nice but must be enclosed in a barrier that separates them from cars.

Additional comments or questions:

The bicycle lanes from McMurray to Sprout are death traps. It would be much better to have left turn lanes and a center lane buffer on north G.W.W.

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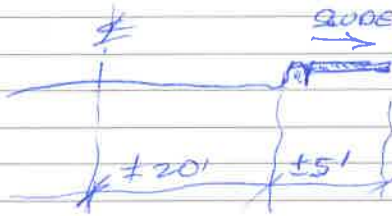
Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

JAMES R. DILLMAN 2523 GRANADA CT, RICHLAND

Comments regarding the roadway alternatives:



SLOPE SIDEWALKS TO LAWN & PLANTING. THEN
RAIN & SNOW WOULD IRRIGATE LANDSCAPING
INSTEAD OF BECOMING STORM WATER TO THE
CITY

THEN STORM WATER OF STREETS COULD
BE REDUCED 20%

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

MAIL, FAX, OR EMAIL COMMENTS TO:

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FAX: 208-762-9797

PLEASE SUBMIT COMMENTS BEFORE

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

Richland Downtown Connectivity Study



COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Shir Regev 114 Patton St. Richland, WA

Shir.regev@yahoo.com

Comments regarding the roadway alternatives:

I support the "Road Diet" option. It will move traffic more safely through Richland and benefits residents of N. Richland and central Richland instead of just favoring commuters who only pass through.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

MAIL, FAX, OR EMAIL COMMENTS TO:

J-U-B ENGINEERS, Inc.
2810 W Clearwater Ave #201
Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

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The following comments are submitted by (name, address, city/state, phone and/or email):

Dori Luzzo Gilmore
2051 Howell Ave Richland WA 509 366 9706
dluzzogilmore@gmail.com

Comments regarding the roadway alternatives:

I prefer the plan where George WA Way
will be put on a road diet.
This will be the safest alternative

Comments regarding the potential downtown, bicycle and pedestrian amenities:

More protected bike lanes & lighted
ped crossings.

Additional comments or questions:

Safety > efficiencies

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The following comments are submitted by (name, address, city/state, phone and/or email):

Deborah Rueggeger debrueg@hotmail.com

Comments regarding the roadway alternatives:

The complete alternative makes sense
Road diet - Not good for traffic
Jadwin Option OK but one way streets are safer

Comments regarding the potential downtown, bicycle and pedestrian amenities:

Additional comments or questions:

MAIL, FAX, OR EMAIL COMMENTS TO:

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The following comments are submitted by (name, address, city/state, phone and/or email):

Michelle LeClair
110 Enterprise Dr.
Richland, WA 99354
509-371-1028
bobmichr@in-sprerig.net

Comments regarding the roadway alternatives:

- A lot of this section of town (between Lee & Swift) is not set up for retail (banks, fast-food, parks, hotels). Future consideration of zoning necessary to attract retail businesses to create that "downtown" place where people wish to come to "hangout."
- Would expect more cross street traffic flow (east-west streets), with this one-way approach, as sometimes you'll need to go around the block to get to your intended destination.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

- How do bikes in right-side bikelane make Left-hand turns? It's a lot to cross 3 lanes of traffic to do so.

Additional comments or questions:

MAIL, FAX, OR EMAIL COMMENTS TO:

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2810 W Clearwater Ave #201
Kennewick, WA 99336
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Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

Molly Petersen 1420 Stevens Dr. Richland, WA 99354
509 205 5563 mollyvan77@gmail.com

Comments regarding the roadway alternatives:

Many cities are now trying to remove their one-way streets that were placed decades ago. One-ways are proven as less safe for pedestrians due to perceived car speed possibilities. They're also proven to be disadvantageous for businesses.

I advocate for the road diet alternative for safety for pedestrians and bicyclists and a more pleasant town to live in.

Comments regarding the potential downtown, bicycle and pedestrian amenities:

I would like to see protected bike lanes and around town. Our current configuration of bike lanes is unsafe and inefficient for cyclists. I advocate for improved pedestrian crossings and slower car speeds.

Additional comments or questions:

"THE STORY RUNS DEEPER THAN YOU
KNOW, AND YOU ARE A PART OF IT."

- THE DARK CRYSTAL

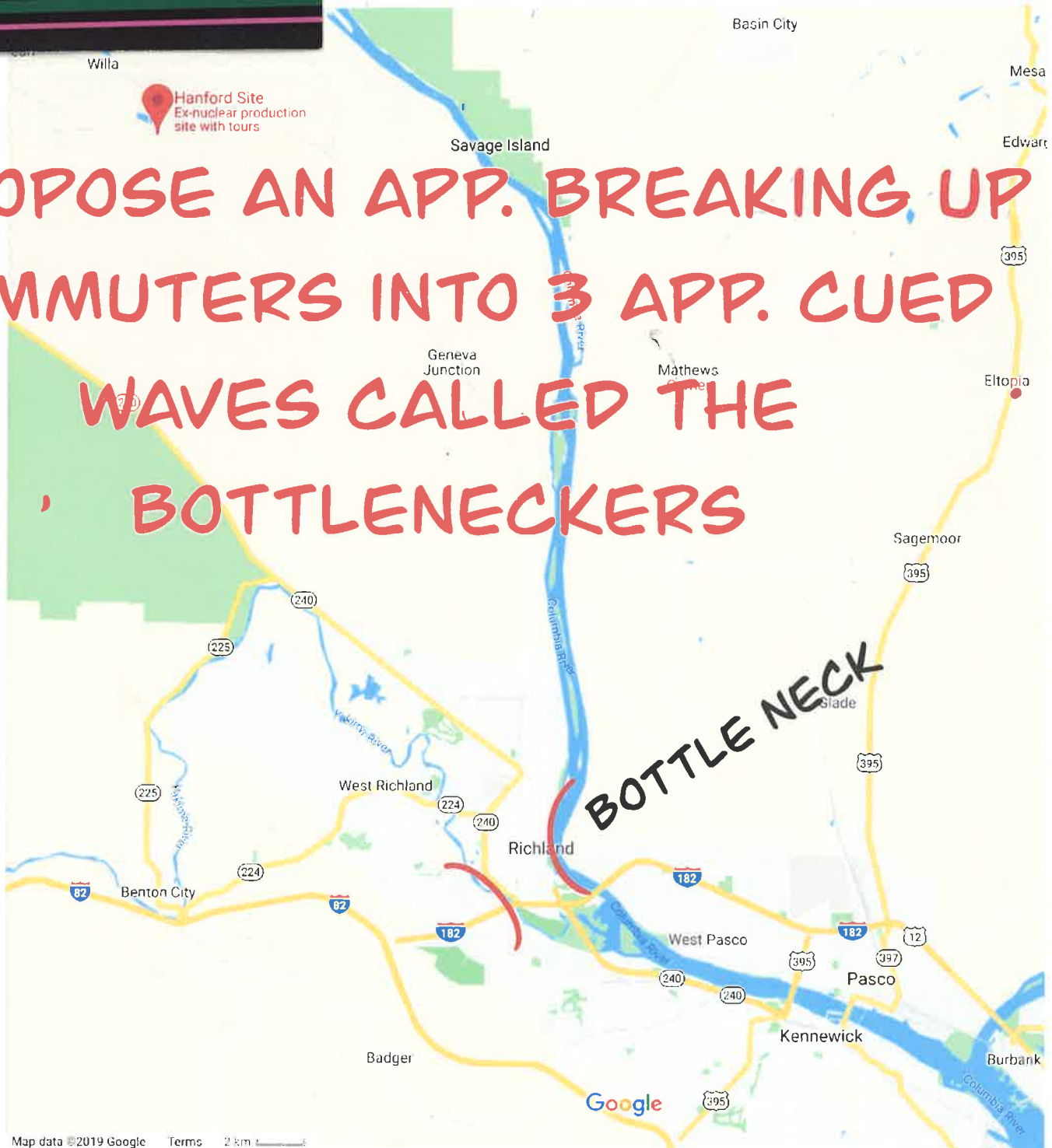
LUKE RAY

(509) 572-8611 • 245 SYMONS ST., RICHLAND

AUTONOMY • MASTERY • PURPOSE

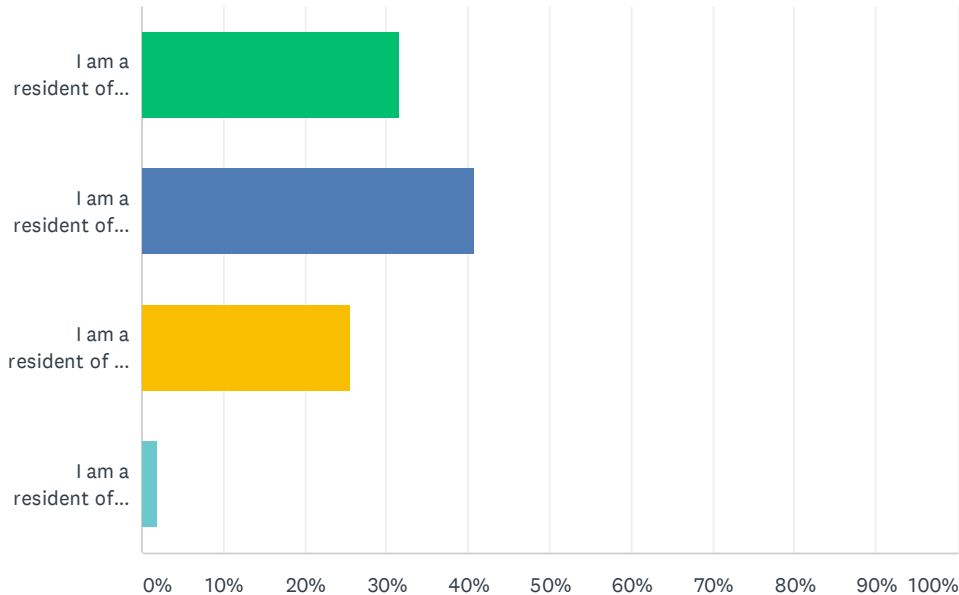
autonomoustown@gmail.com • @autonomoustart

I PROPOSE AN APP. BREAKING UP
COMMUTERS INTO 3 APP. CUED
WAVES CALLED THE
' BOTTLENECKERS



Q1 What is your residential relationship to Downtown Richland?

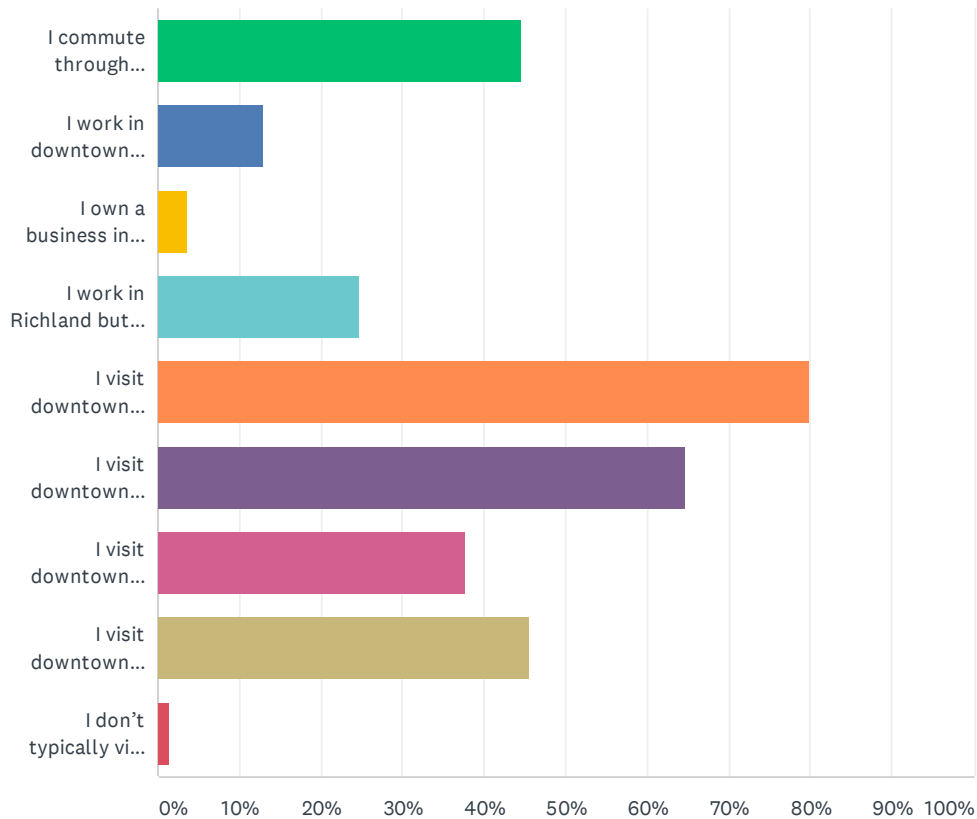
Answered: 1,144 Skipped: 11



ANSWER CHOICES	RESPONSES	
I am a resident of Richland and live near downtown	31.64%	362
I am a resident of Richland and live in neighborhoods outside downtown	40.82%	467
I am a resident of the Tri-Cities but not of Richland	25.61%	293
I am a resident of outlying areas near the Tri-Cities	1.92%	22
TOTAL		1,144

Q2 How do you interact with downtown Richland? You may choose up to three.

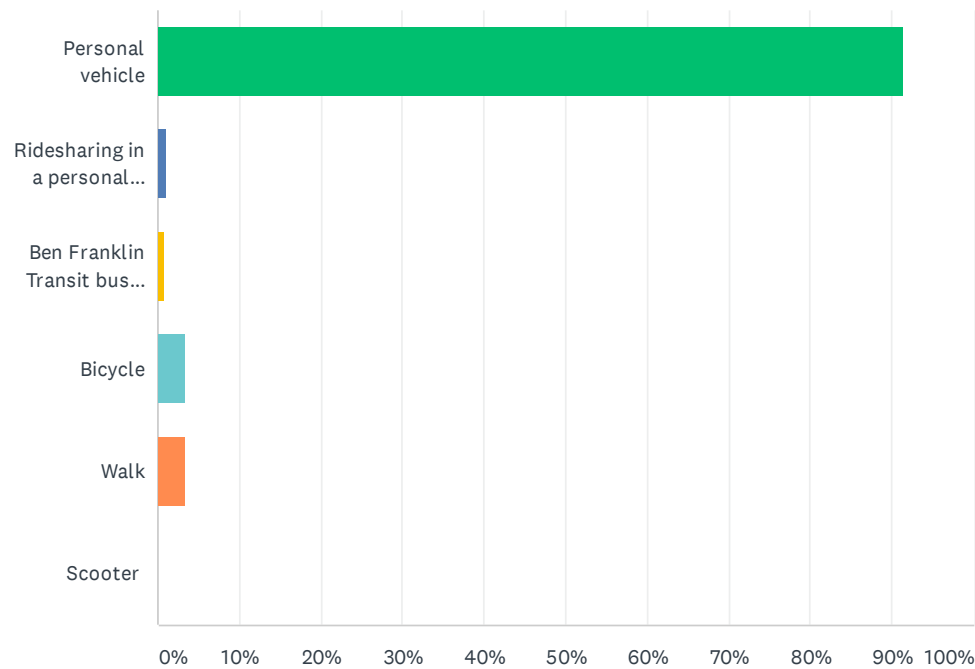
Answered: 1,149 Skipped: 6



ANSWER CHOICES	RESPONSES	
I commute through downtown Richland to/from work	44.65%	513
I work in downtown Richland	13.05%	150
I own a business in downtown Richland	3.48%	40
I work in Richland but not in downtown	24.63%	283
I visit downtown Richland to patronize stores and restaurants	79.98%	919
I visit downtown Richland to visit Howard Amon Park or the Riverfront trail system	64.58%	742
I visit downtown Richland for recreation	37.68%	433
I visit downtown Richland for events	45.69%	525
I don't typically visit downtown Richland	1.57%	18
Total Respondents: 1,149		

Q3 Which best describes your typical mode of travel to or within downtown Richland?

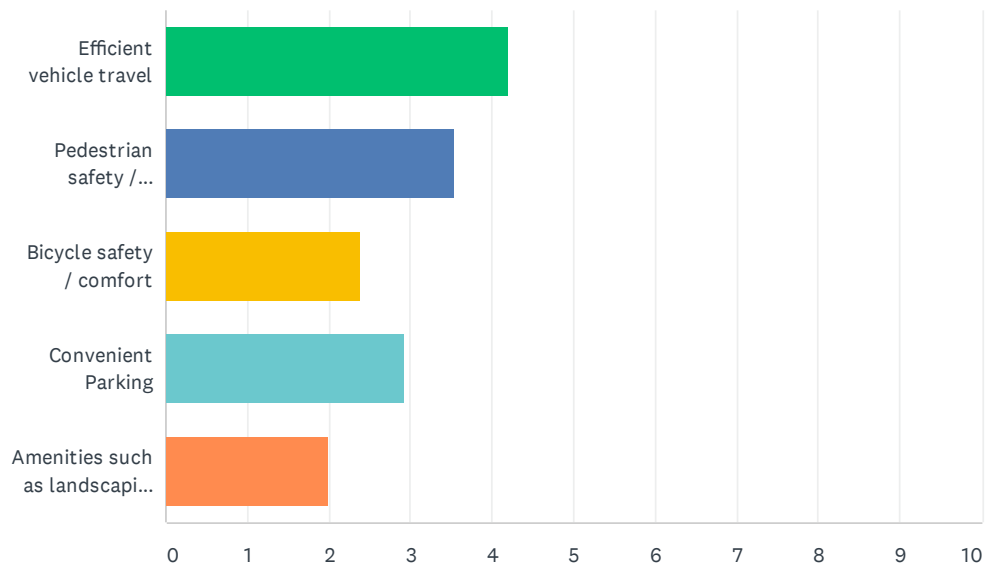
Answered: 1,147 Skipped: 8



ANSWER CHOICES	RESPONSES	
Personal vehicle	91.37%	1,048
Ridesharing in a personal vehicle	1.13%	13
Ben Franklin Transit bus ride	0.78%	9
Bicycle	3.31%	38
Walk	3.31%	38
Scooter	0.09%	1
TOTAL		1,147

Q4 Please rank in priority order the qualities you desire for the downtown street system.

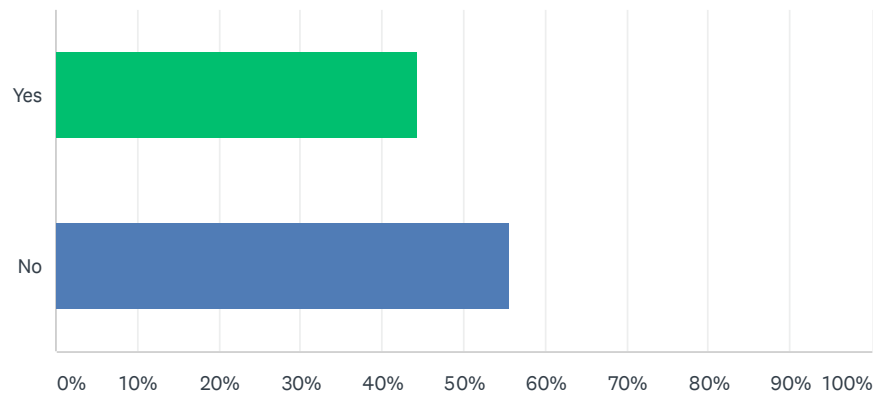
Answered: 1,139 Skipped: 16



	1	2	3	4	5	TOTAL	SCORE
Efficient vehicle travel	67.41% 759	9.68% 109	7.46% 84	7.73% 87	7.73% 87	1,126	4.21
Pedestrian safety / comfort	19.71% 218	32.37% 358	32.28% 357	13.20% 146	2.44% 27	1,106	3.54
Bicycle safety / comfort	4.60% 51	15.24% 169	21.37% 237	31.65% 351	27.14% 301	1,109	2.39
Convenient Parking	4.85% 54	35.19% 392	21.45% 239	24.15% 269	14.36% 160	1,114	2.92
Amenities such as landscaping, public art, and street furniture	4.32% 48	8.00% 89	17.63% 196	22.21% 247	47.84% 532	1,112	1.99

Q5 The consultant team and CAC’s work indicates that the One-Way Couplet is the best alternative to meet the dual objectives of improving pedestrian and bicycle accessibility and sustaining vehicular traffic flow.
Can you support this finding?

Answered: 1,144 Skipped: 11



ANSWER CHOICES	RESPONSES	
Yes	44.32%	507
No	55.68%	637
TOTAL		1,144

Q6 If you answered “no” to question #5, please share your concerns:

Answered: 649 Skipped: 506

Downtown Connectivity Study: Alternatives and Amenities Survey

#	RESPONSES	DATE
1	Problems from parking on street Delay to traffic while parking taking place – vehicles in the lane closest to the parking lane will have to stop to allow someone to park or leave a parking place. There will be accidents from hitting persons getting into/out of vehicles parked along the street. Accidents will happen from slowing/stopping traffic to accommodate parking vehicles Problems from bike riders near street One attractive rider beside a busy street could cause chaos to core area traffic Riders causing distracted drivers resulting in slowed traffic Slowing traffic from distracted drivers causing rear-end traffic accidents. Distance of park attractions to vast majority of citizens Much of the area near the park is business core/hospital district Relatively small number of citizens live within ½ mile of study area Small number of business to attract people to the area – most foot traffic occurs during special events. People have to carry what they procure – so they don't buy much or have to return in a car to pick it up still requiring motor vehicles and parking Weather conditions that affect use – most days of the year fall into one of these Too hot to walk or bike comfortably Too cold to walk or bike comfortably Too windy to walk or bike comfortably What people want is a place to park when they get to the downtown area.	2/6/2020 10:28 PM
2	Hanford traffic will be a nightmare if this alternative is used.	2/6/2020 10:12 PM
3	how will it be funded? How will it be implemented? two bike lanes?	2/6/2020 10:09 PM
4	The Connectivity work focuses on the traffic flow and pedestrian issues without having a guiding master plan for the downtown area to justify the efforts. There's an assumption that pedestrians will want to walk on GWW but without an adequate motivation statement for the assumption anywhere. I walk on the Parkade and in the park -- why do I want to walk on GWW? In my opinion, the current or foreseeable future draw isn't enough for increased pedestrian traffic outside of special events such as Art in the Park.	2/6/2020 9:50 PM
5	Every city I have visited with one way couplets have annoyed me greatly.	2/6/2020 9:48 PM
6	Less lanes for driving is ridiculous. It is already hard to get anywhere including home in central richland during peak commute times., less lanes and one way will be worse. If you are trying to drive people aw as y from shopping uptown and the parkade you are doing it. Winco at 5 pm? Not a chance. Take care of the majority of your citizens who go in private vehicles around town. We dont need feel good landscaping and art work we need function.	2/6/2020 9:20 PM
7	My work location would be off one of the one-way options. My commute wpuld be impacted to one of least direct route.	2/6/2020 9:17 PM
8	There is not a pedestrian or pedacycle traffic amount to support this amount of spending. This is not and has not been a community concern. This has only been a goal and directive of city council based on ideas we do not share.	2/6/2020 8:46 PM
9	Na	2/6/2020 8:39 PM
10	Every town I visit with one way roads is an absolute pain to get to where you are going. My friends that live in these areas avoid them if possible.	2/6/2020 8:28 PM
11	One way traffic in other cities is a nightmare. Trying to make the downtown area a walkway destroys the ability to conduct business will decrease safety and ultimately will harm an already distressed area.	2/6/2020 8:13 PM
12	I don't like having to navigate one ways	2/6/2020 8:09 PM
13	I live work and shop downtown richland. I am also a taxpayer. Changing Gway and Jadwin to one way streets will make the problem worse not better. It complicates travel from north to south. It makes it more difficult to get from point A to point B. And, it is a waste of taxpayer dollars. Leave it alone. There is a bicycle and walking path that runs parallel with gway and is not more than 2 blocks away. I offer walk or ride my bike to work. It is not a difficult thing to do. Some people that bike have different agenda. They want to act like a biker cannot get from point a to b as it is. That is not true. I have even seen where some of them say they cannot cross Gway at certain times of the day. That is ridiculous! You press the button at the cross walk, wait until the light changes and then cross. It is not that difficult. Why spend money on project that do not need to be done. Who at the city is pushing this. Why no open public meeting where the public can speak. I do not consider the open house you had to be an open public meeting. It was purely propaganda.Also why is this survey on the 2nd page of the citys website with no mention of it on page one? Why not make it easy for the public to respond? If you wanted to improve the pedestrian experience, add more of the light up crosswalks. They do make a biker or pedestrian more visible crossing the street. You could also improve sidewalks through-out the city that are uneven or lifted up. Many of the are trip hazards. Do more to educate children about crossing the street (look left, right, left) Too often I see pedestrians walking totally unaware of surrounding, texting, headphones on, looking down, Educate kids	2/6/2020 7:50 PM

Downtown Connectivity Study: Alternatives and Amenities Survey

to not assume a car sees them and will stop. (Do not cross until traffic has stopped) In addition the 20 is plenty group is agenda driven. I work in business where I am in contact with countless people, they want to be able to get to and from work in their vehicle in a safe a timely way. They do not want to park a car at the park and ride and find a different way home to make less traffic on our streets as one of the 20 is plenty people have suggested. Give me a break!!

14	Richland is not walking friendly. The parking is is not accessible. The Farmers Market & Art in the Park illustrates how difficult it is shopping, walking and parking in Richland. Even with the current traffic flow, the AM & PM traffic diverts into residential & into Bradley Blvd. making them high traffic flow & impossible to traverse. Changing to a one way will highly complicate access to & from businesses.	2/6/2020 7:44 PM
15	Too dependent on automobiles.	2/6/2020 7:38 PM
16	There is already an issue with traffic in down town this would only make it worse and waste money	2/6/2020 7:29 PM
17	Sidewalks in richland are more important than roads	2/6/2020 7:24 PM
18	If you're going to do all that work, make it FOUR lanes. The daily traffic jams are ridiculous.	2/6/2020 7:21 PM
19	Instead of messing up all the roads in downtown Richland maybe you should be looking at how to link another bridge to Pasco. This would help to relieve a much of the traffic on George Washington Way. Maybe at William's boulevard and Dent street. I believe you would be surprised at the change in pressure on that area of Richland and screwing up traffic and businesses would be unnecessary.	2/6/2020 7:21 PM
20	I like g way the way it is. The Change is unnecessary will be confusing and very expensive. I hate the idea	2/6/2020 7:16 PM
21	The commute traffic on Jadwin and GW WAY are already bad enough, making it one way for only a portion of the drive would make it worse. If going to make it one way, do it all the way from the HE WAY/Jadwin intersection to McMurray.	2/6/2020 6:54 PM
22	Reduced useable vehicular lanes.	2/6/2020 6:40 PM
23	Downtown is not as thriving as residents seem to think it is. Businesses that have lasted no one goes to and new ones come and go. I think this is a horrible idea. Richland is not a bustling city and I don't think construction would be any type of improvement	2/6/2020 6:40 PM
24	I am concerned about traffic flow during rush hours as well as access ability to businesses.	2/6/2020 6:11 PM
25	Lived in Portland and the bike lanes and riders caused a lot of issues	2/6/2020 5:54 PM
26	This is not going to solve the traffic issues on George Washington Way, Unless you make larger sections one way streets, these streets were not planned for the Hanford traffic mayhem we see in recent years. Sorry for being negative, but this looks like another project that is a waste of money, how about you install sidewalks in the old richland neighborhood's so kids can walk to school safely, bet it would be less expensice than this project and get better results and happier residents. And build a bridge to pasco more north richland so it diverts a third of the Hanford traffic.	2/6/2020 5:52 PM
27	More lanes for vehicles to deal with traffic. Not less. Not one way streets that make patronizing businesses more difficult. More parking.	2/6/2020 5:32 PM
28	Richland is a bedroom community for Hanford Nuclear Park, PNNL as well as WSU. Bicyclists already enjoy north south transit along the river in the form of bike and walking path. Direct access to I-82 and bus routes for Richland homes is already problematic at certain times of the day without slowing traffic down with one way streets. The burgeoning Pasco and Kennewick cities are less accessible by one way streets.	2/6/2020 5:28 PM
29	Less lanes of travel.	2/6/2020 5:21 PM
30	n/a	2/6/2020 5:11 PM
31	I just see a big mess in the downtown area.	2/6/2020 4:56 PM
32	with three lanes of traffic one way, this doesn't reduce traffic and doesn't make downtown more pedestrian friendly	2/6/2020 4:42 PM
33	NA	2/6/2020 4:11 PM
34	One-way roads are problematic, not friendly to unfamiliar drivers.	2/6/2020 4:02 PM
35	I think it will congest traffic in that area more so than before.	2/6/2020 4:01 PM

Downtown Connectivity Study: Alternatives and Amenities Survey

36	It won't sustain vehicular traffic flow. If downtown Richland needs to become more pedestrian and bicycle "friendly" then solve the By-Pass traffic problems first to reduce downtown traffic.	2/6/2020 3:53 PM
37	On street parking seems like a bad idea. People will be stopping a lane of traffic trying to parallel park in tight quarters on a roadway that will likely maintain 35MPH speeds? Why are no additional lanes being added, but instead reduced? there is currently 2 through lanes on Gway and 2 in places on Jadwin. Get rid of bike combined lane for additional vehicle lane.	2/6/2020 3:50 PM
38	A bicycle path already exists; use it! Also, the changes already made to City of Richland streets have negatively impacted traffic flow. Try timing your lights down G-Way and Jadwin!	2/6/2020 3:43 PM
39	One-way couplet doesn't solve the problem of traffic volume through the are. Without lane expansions on either side of the couplet, bottleneaking may also occur, causing other problems, including traffic buildup through the couplet. Bicycle accessibility would be better achieved via bicycle lanes and road maintenance, or dedicated bicycle trails/paths. Pedestrian traffic could be improved by wider and better maintained sidewalk, and by optimized traffic signals. If the ultimate concern is with the volume of through traffic, then 240 needs to be improved upon, making it a better option for through-traffic vice driving through downtown Richland.	2/6/2020 3:41 PM
40	Do not beleive it will make a difference	2/6/2020 3:39 PM
41	Bikes should use the sidewalk and not impede traffic. It's a waste of money and would worsen traffic to add in bike lanes.	2/6/2020 3:39 PM
42	Increased speed, less enjoyable roads for bicycles and pedestrians, less business for the adjacent stores, navigation issues with people travelling through. Other cities are reversing their one-way-street systems, because they have come to realize two-ways have more benefits. We should not make backwards decisions, but increase public transportation.	2/6/2020 2:49 PM
43	I feel people will find it confusing and reducing lanes is not the answer.	2/6/2020 2:47 PM
44	Places pressure on getting to and from shopping.	2/6/2020 2:39 PM
45	I I think it would hurt the businesses	2/6/2020 2:34 PM
46	N/A	2/6/2020 2:15 PM
47	Too much of a change and will mess with businesses downtown	2/6/2020 2:07 PM
48	There is more people driving their cars than there is people on bicycles or walking. Keep our roads the way they already are. Just add flashing cross walks.	2/6/2020 2:07 PM
49	This will make it difficult for businesses on G-Way and Jadwin to attract customers.	2/6/2020 2:00 PM
50	one-way traffic often causes confusion and stress to drivers (less focus on the road/surroundings and more focus on finding proper route to destination)	2/6/2020 1:47 PM
51	I have lived in other cities and one way streets usually in crease speed for traffic flow, not for pedestrian or bicycle safety. An alternative that lets traffic flow quickly is very important for the site workers like my husband.	2/6/2020 1:39 PM
52	It is a complete waste of resources from tax paying Richland residents to make changes to G-Way. As its currently structured, traveling to North, Central and old South Richland from either direction is efficient and timely. The belief that our fine city needs a restructured downtown area is flawed in its thinking. Creating a boardwalk will not, even in the best scenarios create any real ROI financially or quality of living return for its residents. There is no plan included for anything that would create a real draw for pedestrian traffic. An example of this type of planning would be much like the carousel of dreams and event center in Southridge in Kennewick, or aquatic center that would entice crowds to visit the area.	2/6/2020 1:35 PM
53	one way streets make it too difficult to get around and would increase bad bicycle behavior	2/6/2020 1:35 PM
54	Do not reduce the lanes through Richland. The reduction in lanes going E/W makes me not ever want to shop or do business in Richland.	2/6/2020 1:34 PM
55	Transportation analysis finding that 3 lanes each direction are adequate is flawed and faulty. These types of analyses are usually applicable to traffic "at present", and make no allowances for "future traffic". They also always seem to be in error, by way of underestimating actual traffic load. Each road (GWW/Jadwin) should have 4 lanes apiece.	2/6/2020 1:26 PM
56	As a resident of Richland going through that area often, including taking my son to work in the affected area, the idea of one way streets is not at all appealing. Since the traffic will still have to merge back onto G-Way to exit onto 240 or 182, I fail to see how you won't have the same bottle necks. It will create a nightmare trying to get to businesses in the affected area..	2/6/2020 1:25 PM

Downtown Connectivity Study: Alternatives and Amenities Survey

57	I believe the bike path through the river should be expanded, so the less bike and car share the road, it is safer for both.	2/6/2020 1:21 PM
58	There is nothing wrong with downtown now.. there is nothing "inaccessible" about downtown for pedestrians or cyclists. Please don't waste my tax money on screwing up traffic.	2/6/2020 1:14 PM
59	NA	2/6/2020 1:06 PM
60	Not opposed per say, but concerned that this may negatively affect travel. 1 way streets can be good, but there are lots of difficulties as well - including confused drivers.	2/6/2020 1:03 PM
61	I see no problem with the road system as is. One-way roads are confusing and aggravating when you are trying to get to a desired location. Making changes to George Washington way would be very costly and unnecessary	2/6/2020 1:02 PM
62	The current road system works and making changes to accommodate bicycles is a waste of city resources. There are sidewalks available for people to use on GWay in place already.	2/6/2020 1:00 PM
63	Tri-Cities drivers struggle hard enough with roundabouts. Make the bypass an actual bypass and install crosswalk light controls if you must for pedestrians on gway and jadwin	2/6/2020 12:57 PM
64	Creates problems for local residents who frequent local businesses. Residents loop around to gain access to businesses.	2/6/2020 12:43 PM
65	The area is not set up to handle one way traffic on jadwin and getting on and off jadwin/gway on an one way street would be a nightmare.	2/6/2020 12:42 PM
66	I'm concerned that this will not improve pedestrian and bicycle safety at all and will make Richland a more confusing place to travel through	2/6/2020 12:26 PM
67	Enforcement of current traffic and speed limit laws will do more for safety while costing residents less money over all.	2/6/2020 12:23 PM
68	I'm concerned that one way flow of traffic will negatively impact businesses and reduce the access the public has to those businesses. Traffic during commute times is already bad. One way traffic will undoubtedly make the traffic at peak commute times even worse, especially at both the Bradley and Williams ends of the Couplet.	2/6/2020 12:16 PM
69	There is a high probability of bottlenecks at the start and end points of the one-way. This configuration could also limit easy access to downtown businesses buy causing people to either drive through the parking lots or around the downtown area to reach a business on the other side. How would through traffic be controlled within the downtown area parking lots?	2/6/2020 12:13 PM
70	One way roads would cause an increase in use in side roads and perpendicular roads for people trying to reach a certain destination; increasing traffic, the time the car is on the road, and increased left/right turns across crosswalks increasing the potential for pedestrian accidents.	2/6/2020 12:06 PM
71	I don't see how this will sustain vehicular traffic flow. As large employers in Richland hire more staff, vehicle traffic will increase. It is not reasonable to believe folks from Pasco, Kennewick, West Richland, and beyond will walk or ride a bike to work, attend church, get to a medical facility, etc.	2/6/2020 12:02 PM
72	Unless the couplet runs the full length of Jadwin and provides increased traffic throughput it will only hurt local business as opportunistic commuter shoppers will avoid the area.	2/6/2020 11:52 AM
73	I think this will cause a lot of auto accidents & make traffic worse! Also may hurt businesses located on Geo WA Way	2/6/2020 11:51 AM
74	one way for only a short distance will not serve the purpose that you are trying to achieve	2/6/2020 11:49 AM
75	I don't think it's the best thing to do - don't need to change up so much just to improve bicycle access	2/6/2020 11:29 AM
76	This will make traffic worse than it already is going down to 1. People already drive slower than the limit and this would help cause more backups.	2/6/2020 11:24 AM
77	would just back up Jadwin a lot farther, still same amount of traffic, now restricting them to one road. also, where is this HUGE influx of pedestrians supposed to come from. seems like a lot of money to improve problems that don't really, and won't exist.	2/6/2020 11:22 AM
78	One way streets will not solve anything with high traffic volumes. Built in bottlenecks where the two directions merge. Have you lived in a community with one way streets?	2/6/2020 11:09 AM
79	I could support, but am thinking that the dedicated bike lanes on both GWW and jadwin are excessive. There is already a bike path on the river. Do bicyclists really need three dedicated	2/6/2020 11:06 AM

Downtown Connectivity Study: Alternatives and Amenities Survey

routes each a block apart from each other. If the Jadwin bike lane was eliminated and either more parking or a fourth lane for traffic were created, I could support the couplet.

80	I am a cyclist, and I think that cycling traffic should be routed through the river front trail which is much more extensive than the area being studied. It would be nice to split pedestrian and cycle traffic in that area though.	2/6/2020 11:00 AM
81	Jadwin Alt is better. 1) It increases low traffic feel of core area along GW Way, 2) It consumes plenty of land along Jadwin to allow for high traffic volume throughput well into the future.	2/6/2020 10:59 AM
82	How many of the younger people who want change will even stay here permanently	2/6/2020 10:59 AM
83	It would hurt the businesses on those streets	2/6/2020 10:57 AM
84	The purpose plan would not eliminate traffic but cause more problems for people traveling in Richland. It will cause problems for people living in the purpose areas. I would do my best to avoid these areas and take my business else where	2/6/2020 10:53 AM
85	One way streets on Jadwin and George Washington Way would not work due to the high amount of traffic on both streets, especially during peak commute hours, aka when people are going to or getting off of work.	2/6/2020 10:43 AM
86	Pedestrian traffic is minimal compared to the need for good traffic flow which these new ideas will not improve. There is already plenty of sidewalk space for pedestrians. There are even fewer bicyclists. This seems a solution without a problem. To put this type of money into a non need is wasteful. Probably should look into better traffic flow by adjusting the way the lights work along GWay. The area where Jadwin and GWay meet is a particular problem but the lights from that spot to the freeway are not conducive to good traffic flow	2/6/2020 10:38 AM
87	The 126 bus route, which serves George Washington Way, due to the prevalence of apartment complexes, would be rerouted on its South-bound trip. This would introduce a significant burden for those who live on George Washington Way and have limited mobility; effectively ending the usefulness of the South-bound trip.	2/6/2020 10:30 AM
88	Traffic is horrendous and making main roadways into one ways would affect many businesses and local families.	2/6/2020 10:25 AM
89	Na	2/6/2020 10:22 AM
90	One way streets are confusing and they make it hard to access businesses.	2/6/2020 10:21 AM
91	Jadwin crosses in front of an elementary school and neighborhood. Traffic should be diverted away from downtown by encouraging other routes such as the Bypass highway. Use of Bypass highway could be encouraged by turning it into a freeway from Aaron Drive up to Van Giesen intersection	2/6/2020 10:12 AM
92	Maybe, I live in North Richland and drive GWW daily. Will this be an improvement for North Richland residents? It is already hard to drive out of Richland	2/6/2020 10:12 AM
93	It's already hard to get around in downtown, changing to one way streets complicates it and I believe it will have a negative impact on local businesses	2/6/2020 9:58 AM
94	The majority of vehicles traveling on Gway are traveling to & from work. Keeping traffic moving should be the 1st priority. More parking for people shopping or recreation should be next on the list. One way streets will not succeed because all the traffic funnels into the Aaron & Gway intersection, which will turn into a giant traffic snarl. Please keep the traffic moving on Gway & keep Jadwin a small arterial through the residential area.	2/6/2020 9:56 AM
95	There are not enough bicyclist to warrant changing the road way and creating a mess for people traveling in cars.	2/6/2020 9:50 AM
96	Find alternate routes for cummuter travel thru downtown. Increase the traffic lanes on GWW from Jadwin to the Winco intersections	2/6/2020 9:42 AM
97	Do not like one way streets. Not efficient.	2/6/2020 9:39 AM
98	It's fine the way it is. Bicyclists can use alternate routes.	2/6/2020 9:34 AM
99	N/A	2/6/2020 9:32 AM
100	Inconvenient access to shopping and restaurants.	2/6/2020 9:31 AM
101	inconvenient access to shops and restaurnts	2/6/2020 9:19 AM
102	There is already a beautiful and functioning bike/pedestrian path. We do not need to spend anymore of our tax payer money (paid for by VEHICLE tabs) to support bikers. Make the bikers	2/6/2020 9:10 AM

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	pay a portion	
103	I don't see enough need for increasing pedestrian infrastructure. I live in north Richland. The most REGULAR activity I see is people walking for exercise, and bus riders. This area already has a bike path by the river that is very functional and is used frequently. The tri cities in my opinion is not a city with a high need for pedestrian commuting. The city is built too vastly for that to be convenient. Therefore few people take advantage of that.	2/6/2020 9:07 AM
104	One-way main streets will result in more stress, accidents, and frustration for the residents who use the streets to get to/from work (ie. the tax-payers).	2/6/2020 9:06 AM
105	The current one-way couplet has three lanes of travel on both G way and Jadwin, during Peak rush hour times in school events this is not going to provide sufficient Lanes to accommodate all of the vehicles, as well as pedestrian and cyclists traffic safely. As it is traffic is gets extremely backed up and there are times where pedestrians and often cyclists are out in the roadway. I do believe that creating one-way couplets would be a good idea, however it needs to be four lanes of travel in each Direction, with space to allow for pedestrians and cyclists.	2/6/2020 9:06 AM
106	It will be to confusing for people and they will drive e through the neighborhood	2/6/2020 9:01 AM
107	There is nothing wrong with the current street lay-out.	2/6/2020 9:00 AM
108	it is hard to commute already and this will just make it harder I will probably not stop every day in the uptown like I do now for breakfast on the way to work as it will be easier to just take the highway and avoid the whole mess. You will lose business doing this. Also, we have a lot of elderly retired people that don't drive outside of richland for their needs. They will quit going down town if it becomes more difficult to navigate.	2/6/2020 8:48 AM
109	Effect flow of traffic should be the priority.	2/6/2020 8:47 AM
110	I answered yes but this question requires a response	2/6/2020 8:47 AM
111	If there are going to be bicycle lanes they need to run west to east because your objective is to have them end up either in the downtown area or the river. North/south bicycle lanes need to run along the river-far away from Geo Way or Jadwin. Both of those roads are to busy for bike lanes.	2/6/2020 8:39 AM
112	Traveling through downtown would be even more chaotic	2/6/2020 8:27 AM
113	This is a waste of taxpayers money. We already have safe crosswalks for pedestrians and bicyclists.	2/6/2020 8:20 AM
114	I think that making more changes to how the streets are now will just make George Washington Way more dangerous to pedestrians, especially children. People from Hanford just start using alternative routes such as Davison, Van Giesen, Harrison, Cottonwood Drive, and all of the other roads to "get home ASAP". How is this beneficial to school age children who walk home?	2/6/2020 8:15 AM
115	none	2/6/2020 8:11 AM
116	G-Way flow changes direction based on time of day. A one way would make coming into Richland a simple matter;however, leaving traffic has to merge or cut across multiple lanes to get to 240, Pasco, or I82 exits. The current turn off of Jadwin is bad enough. The Jadwin Option Alternative where a section of G-Way become a local street is by far the best upgrade option. This way, park side businesses and park become safer for activities while allowing main thoroughfare traffic to flow.	2/6/2020 8:07 AM
117	The two streets are only one-way for part of the suggestion. That makes getting around downtown Richland harder when you work on one of the streets.	2/6/2020 7:39 AM
118	It will just make it harder to get from one end of Richland to the other	2/6/2020 7:35 AM
119	It greatly impacts me based on my address.	2/6/2020 7:34 AM
120	This just re routes traffic, doesn't add lanes to help with congestion. This plan appeases the walking/biking minority.	2/6/2020 7:16 AM
121	One way will just make the issue worse. Especially with Hanford traffic. You will also negatively impact businesses as people will not want to make the extra effort	2/6/2020 7:11 AM
122	People are still having trouble with their changes from 2 to 1 around Kadlec (which they should have add more floors to their parking garage for people safety)	2/6/2020 7:10 AM
123	In my opinion I think there should be a roundabout intalled at Lee and GWay. Get rid of the lights. There's too much traffic built up from hanford area workers. Very annoying because half of them are in a hurry and impatient.	2/6/2020 7:04 AM

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124	bicyclists represent a minute fraction of the commuting public. Traffic management policy that impedes the vehicle based commuting public in favor of that fractional element is short-sighted	2/6/2020 7:04 AM
125	Everywhere this has been tried has been a failure for local businesses for at least 10 years. Please look at Spokane Valley when they first did this to Sprague. It was awful!	2/6/2020 7:00 AM
126	Will make it more difficult to get from point a to point b	2/6/2020 6:48 AM
127	As a commuter, it will do nothing to improve traffic flow so it seems a waste of funding.	2/6/2020 6:39 AM
128	N/a	2/6/2020 6:23 AM
129	None	2/6/2020 6:18 AM
130	We have amazing bike paths, we do not need more bike lanes	2/6/2020 6:02 AM
131	I worry this would create a big city feel, cause frustration for drivers and actually put pedestrians and bicyclists at greater risk	2/6/2020 5:55 AM
132	I believe this will cause more backups on side streets (east/west) and increase traffic in surrounding neighborhoods.	2/6/2020 5:27 AM
133	Cars are the top priority when designing roads. In Tri Cities many more people drive. Cars and safety/ease of driving should be top priority. I have much experience with one way streets and they are terrible. Please do not make Richland into a place with one way streets. No one I know who lives in Richland and pays taxes and votes for officials wants one way roads. Richland is not a tourist destination and the people living here really don't want it to be.	2/6/2020 5:07 AM
134	This is a major comminuted thoroughfare. It's ridiculous to have it be one way or reduce lanes	2/6/2020 5:07 AM
135	There will still be a traffic jam as the roads converge	2/6/2020 4:37 AM
136	I'm concerned it'll get more clogged up when it's Hanford traffic time and I see more people getting confused and causing accidents. We do have a large number of older people still driving in this community	2/6/2020 4:29 AM
137	Clueless	2/6/2020 4:26 AM
138	It appears the city council is not listening to the public concerns	2/6/2020 4:03 AM
139	We do not need or want one way streets in Richland.	2/6/2020 3:23 AM
140	It will make bad traffic worse	2/6/2020 2:36 AM
141	Round about no way , and one way the whole street. Anything that is close to around about dont do it	2/6/2020 1:53 AM
142	city of Redmond did the one way for years and it is a bad concept. Also do not reduce lanes for bikes and landscaping it doesn't work.	2/6/2020 1:45 AM
143	NA	2/6/2020 1:06 AM
144	There are too few people that walk or bike in this city to disrupt everyone else. We already wasted money on Gway bike lanes. I never see anyone biking; that is what bike trail along the river is for. There could never be enough things to do in this small part of town for droves of people to walk or bike to. This is a no brainer. Let's not fix something that is not broken. I drive on Jadwin always to go to that end of town, so we already have a fast way to get there. There is no such thing as traffic in Richland.	2/6/2020 12:59 AM
145	No changes in our way of living in central Richland are needed at this time.	2/6/2020 12:57 AM
146	Rush hour traffic would be much worse	2/6/2020 12:44 AM
147	Given the massive amount of people that drive on Gway every day i personally find it ridiculous to make it considerably more difficult to drive down Gway (especially during rush hours) just so that bicyclists can feel more "comfortable". I find the existing sidewalks and pathways throughout the downtown are more than sufficient for pedestrian and bicycle traffic.	2/6/2020 12:31 AM
148	It looked like to me that no one on the CAC represented commuters. The commute time had a low criteria 4. Things for bicyclists we're heavily weighted. Bicyclists and pedestrians have free reign on the path along the river. That did not seem to factor. It would seem that they might need crossover to downtown but not totally change GW Way.	2/5/2020 11:53 PM
149	I believe that it will be a big mistake for Richland residents.	2/5/2020 11:40 PM
150	My only concern is making Gway a one lane / one turn lane road. This seems it would cause a lot of congestion.	2/5/2020 11:35 PM

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151	You guys are stupid for thinking that changing 3-4 blocks into a one way street for a problem that's only 1.5-2 hours a day. In fact I think it'll make it worse.	2/5/2020 11:30 PM
152	I don't like one way streets	2/5/2020 11:27 PM
153	One way is complicated and I cant support	2/5/2020 11:05 PM
154	Even with the one way to certain.streets, it will eventually back log and I am not sure in the end if it will provide relief from current congestion.	2/5/2020 11:00 PM
155	I have encountered many of these one way main streets in Pasco and find them confusing, cumbersome, and not efficient for travel. I end up losing a lot of time navigating them.	2/5/2020 10:57 PM
156	One way streets are inconvenient. Remove signal lights on 240--make it a true by-pass again!	2/5/2020 10:56 PM
157	I said yes	2/5/2020 10:44 PM
158	Cyclist traffic is of very little concern to me in consideration of the number of commuters going through this area throughout the day	2/5/2020 10:43 PM
159	I don't like the idea of making any of the streets into one way.	2/5/2020 10:39 PM
160	There is already a bike path all along the river and sidewalks all around downtown for pedestrian safety. Making this section one way will make it difficult to get im and out of business downtown	2/5/2020 10:31 PM
161	I think two-way streets are more conducive to creating a pedestrian-friendly downtown feel. I think the one-way will make it seem like a highway.	2/5/2020 10:27 PM
162	You still don't do anything with right hand turns and driveway cuts	2/5/2020 10:27 PM
163	The existing street path is not well suited. I take this path already and don't see a benefit without rerouting the streets	2/5/2020 10:25 PM
164	I am still concerned with southern gway at the stoplight before the highway. That seems to cause the backlogs.	2/5/2020 10:25 PM
165	One way roads cause do many issues in other cities and result in many people having difficulty getting to where they need to be.	2/5/2020 10:24 PM
166	As a resident who lives on George Washington Way making it one way I think would increase traffic flow by making it slower it would be more congested	2/5/2020 10:22 PM
167	This plan will cause more traffic problems with turns and merging back from one way to both ways. More lanes to accommodate major north south traffic is the biggest need.	2/5/2020 10:19 PM
168	I've lived in cities with one way streets and they are a loyal waste of time.	2/5/2020 10:04 PM
169	One way traffic would be a disaster and would dissuade me from frequenting downtown. I drive to work between 8 and 9 am. There is no traffic on George Washington Way. I'm a mother of 3 small children. I frequently preschool, private school, stores, restaurants, parks, library and events in North Richland. Often I stop purely based on convenience. If I am not passing a store or restaurant because on George Washington Way I would not stop. Case in point the new Amethyst Creamery. I bring my kids on the way home from school. If I'm diverted down Jadwin, I wont bother going around the block to stop at Amathyst Creamery. Richland is still not that big a city. Stop treating it like there are 1 million people here. Tri-Cities residents like convenience and their cars. Don't get in the way of that.	2/5/2020 10:02 PM
170	One way would not help and is very much a Seattle way of thinking.	2/5/2020 10:01 PM
171	It reduces accessibility to the park and to businesses, especially for those living north of Williams.	2/5/2020 9:52 PM
172	Lack of access to businesses on opposite one-way street. Figure out how to get more cars on the bypass which is supposed to be the main road out toward Hanford area/Battelle/etc work.	2/5/2020 9:52 PM
173	It will be a total mess	2/5/2020 9:51 PM
174	One way streets would complicate my daily routes I run for work. Besides rush hour the traffic flow is just fine the way it is. A better plan would be to install a bridge from Richland hanford area to west pasco to help relieve overflow.	2/5/2020 9:48 PM
175	Ride the bicycles on the bike path!	2/5/2020 9:43 PM
176	Ehhh maybe I just don't like change	2/5/2020 9:41 PM

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177	Cross streets are too far apart, making it take too long to get to common destinations between Symons and Lee Blvd. People in Tri-Cities don't know how to drive on one-way lanes and will get in crashes. The money is better spent on Hwy 240 to replace lights with ramps and over/under passes	2/5/2020 9:37 PM
178	Makes travel more difficult. Hard on businesses	2/5/2020 9:31 PM
179	Tri cities is not as big of a bike community. I don't care about the biking community	2/5/2020 9:28 PM
180	One way will neither attract more business for downtown, nor offer more parking options.	2/5/2020 9:25 PM
181	Cost of this project.	2/5/2020 9:25 PM
182	N/a	2/5/2020 9:22 PM
183	Walking/Cycling in downtown Richland is fine as is, whereas the road quality needs to be improved. Spend the money on sprucing up the area how it already is instead of making such drastic changes.	2/5/2020 9:19 PM
184	One way would create a navigational nightmare, severely limit access to businesses and public spaces, and the proposed lane numbers are barely adequate for the amount of traffic currently experienced. There is clearly no consideration for future growth.	2/5/2020 9:17 PM
185	i feel this will make after work traffic worse	2/5/2020 9:17 PM
186	Close Jadwin east of the federal building: make the street a plaza. Wall off GWWay from the 'park' and make the area pedestrian friendly.	2/5/2020 9:16 PM
187	One way streets are a headache. Right now if George Washington Way has thick traffic generally I can take Jadwin or Stevens and be fine	2/5/2020 9:15 PM
188	The only other option that would make sense would be to do nothing!	2/5/2020 9:13 PM
189	Both Jadwin and G-way are already congested due to Hanford traffic. Reroute that traffic with a bridge over the river to Pasco. There are no traffic problems on the weekends.	2/5/2020 9:12 PM
190	As an older resident, I will not be biking or walking to downtown businesses or events. I would like more parking for events in Howard Amon or John Dam Plaza. I don't believe one-way roads will improve traffic flow or encourage people to stop & shop because there will not be parking. Please encourage commuters to use the By-Pass & new bridge. Consider building a parking garage near downtown. If people want to walk or bike they should use the existing bike & walking paths. I have not seen one bike on Jadwin new bike path. Why would someone chose to bike on Jadwin next to many cars & trucks when they could use the river path or less busy nearby street like Goethals. Why would bikers & walkers want to breathe the exhaust on busy arterial streets. I used to walk & bike in Seattle & Yakima in 1980s but never on busy streets. Always used a parallel residential street or less busy commercial street to safely get where I needed to go.	2/5/2020 9:11 PM
191	I'm sure this method would work most of the time, however, my main concern is how this will affect the Hanford commute. It's terrible as is trying to come to the tri-cities from Hanford, a d that's with traffic distributed between Geo-Way, Jadwin, the Bypass, and other means such as going through West Richland. The majority of traffic returning to the Tri-Cities from Hanford would then be reduced from 3 options, to just Jadwin and the Bypass. That just makes wrecks on either more likely to significantly delay the commute home. Especially in a scenario in which a wreck occurs at Jadwin/Bypass intersection. We need more viable routes for returning to the Tri-Cities from Hanford. Not less. Anything that potentially increases an already unbearable commute home would be unacceptable. I don't see how going from 2 Southbound lanes on Geo-Way and 2 Southbound lanes on (most of) Jadwin to 3 Southbound lanes on Jadwin improves handling of peak traffic. Feels like it just creates more bottlenecks.	2/5/2020 9:11 PM
192	This is a commuter centric answer, making a commute *through* Richland raiser for non-Richland residents	2/5/2020 9:07 PM
193	It doesnt make any sense, how would interations to some businesses work, unless roind abouts were put in help help get to each way	2/5/2020 9:06 PM
194	Traffic is being directed to the Alphabet houses with little concern to the neighborhood or the safety the the pedestrians that live around there all, kids are almost hit daily in crosswalks from swift to Lee and near Goethals, people cut through this area too much as it is and this is going to make it worse, but it is clear the current residents of downtown aren't as important as the new ones the city want to cater to	2/5/2020 9:05 PM
195	The traffic on Gway and Jadwin are always busy and continue to get more congestion due to the increase in work at the nuclear site and Hanford area as well as PNNL and surrounding	2/5/2020 9:01 PM

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businesses. These roads are primary means for commuting to and from these locations as well as the bypass, both of which have been vital for a balance in traffic congestion. Both are congested during peak hours but continue to have increased traffic as the Tri-Cities grows. Combining these roads and converting to one-ways is the dumbest thing I've heard. The tri-cities is expanding and growing rapidly. This project will do a disservice rather than provide a bigger benefit.

196	Jadwin is already heavily used along with G Way. I'm not sure how you can take two lanes of traffic from G Way and add that volume to the already busy Jadwin traffic and make it any better.	2/5/2020 9:00 PM
197	This will not alleviate traffic. And imagine wha Richoand's "every summer we close one main thoroughfare for months at a time" will be like...	2/5/2020 8:59 PM
198	Traffic 9s my greatest concern during peak work travel times.	2/5/2020 8:59 PM
199	Jadwin couldn't handle the additional traffic	2/5/2020 8:56 PM
200	Street are intended for vehicle traffic. Their taxes provide the funding for roads. Bicycle and pedestrian traffic do not support business nor the community.	2/5/2020 8:56 PM
201	poor parking, not easy to get around -- think Boston	2/5/2020 8:54 PM
202	I think making g way and jadwin more lanes and one ways is better	2/5/2020 8:54 PM
203	It will cause major congestion with the traffic from Hanford	2/5/2020 8:54 PM
204	Bicyclist and pedestrians font being sales and money, people in cars trucks and motorcycles from outside areas being sales.	2/5/2020 8:54 PM
205	It will hurt local businesses, traffic will be more confusing	2/5/2020 8:53 PM
206	The same amount of traffic will still need to connect to 240 near Winco.	2/5/2020 8:51 PM
207	I do not think one ways are efficient	2/5/2020 8:49 PM
208	Just don't like the idea	2/5/2020 8:48 PM
209	Pedestrian and bicycle accessibility can be encouraged/planned for using Jadwin, Stevens or the park pathways leaving GWWay for auto travel. During peak hours there is very little bicycle or foot traffic on either GWWay or Jadwin. Most foot & bicycle traffic is on weekends when there is reduced auto traffic. Trying to accomodate auto, foot and bike traffic on the same roads at the same time is a disaster in the making.	2/5/2020 8:47 PM
210	my job consists of driving. i am up and down gway multiple times a day and night going to different homes and business. making one way streets would complicate my job. i would spend so much on gas just to go round and round between the two streets it would be pointless to work my job at all!	2/5/2020 8:46 PM
211	There is too much traffic and businesses in the area would be negatively impacted. Fixing the bypass seems like a better option	2/5/2020 8:43 PM
212	This will make navigating Richland more complicated. A better option would be to return the bypass hwy to a true bypass or build a N Richland to W Pasco bridge crossing the Columbia to alleviate a lot of the Hanford congestion.	2/5/2020 8:43 PM
213	One way streets are never the answer	2/5/2020 8:40 PM
214	One way is going to make traffic back up immensely. Getting up down in the afternoon will be horrid, and getting downtown during the summer or during events will be diffixult. Both should be widened in both directions!	2/5/2020 8:40 PM
215	Traffic would get way too backed up only being 1 Lane each way. Not a good idea at all. Traffic is already contested in that area as it is.	2/5/2020 8:40 PM
216	This will make travel more difficult	2/5/2020 8:40 PM
217	We already have bike and pedestrian options	2/5/2020 8:40 PM
218	One way streets will not alleviate the traffic issue. All traffic will still be flowing the same way at the same times of day therefore the one way streets will be just as congested as the existing routes are now.	2/5/2020 8:40 PM
219	Create bottleneck in different place. Doesn't solve anything.	2/5/2020 8:37 PM
220	We need to remove traffic—one way or not—as a barrier between businesses and the river.	2/5/2020 8:36 PM

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221	I love in Kennewick so if I exit out to go to Kennewick but you can only go right	2/5/2020 8:34 PM
222	No	2/5/2020 8:26 PM
223	This will take away lanes and create less alternate ways north and south if there is an accident how would you detour	2/5/2020 8:19 PM
224	There are no enough lanes exiting Richland via George Washington Way and Jadwin Avenue now. One accident and you are stuck for hours. I personally have been rear ended on George Washington Way in stop and go traffic. The merging of Jadwin and George Washington Way heading S is awful. Not enough room to change lanes, New development that will add traffic and lights at this pressure point. Unless you are building 2 tier highway on top of George Washington Way, you are creating a nightmare with those options.	2/5/2020 8:19 PM
225	Maybe it's because I don't work/live on gway, but I can't see how blocking jadwin's access to the highway helps anyone.	2/5/2020 8:19 PM
226	Nobody knows how to drive, bicycles don't follow road rules which they should.	2/5/2020 8:18 PM
227	I believe the one way streets would create bottlenecks at each end. It sounds crazy but, a roundabout might help.	2/5/2020 8:08 PM
228	The same number of cars must enter/exit. A short stretch of one way road will not change that. This whole idea is just another of Richland's harebrained ideas.	2/5/2020 8:00 PM
229	I'm not concerned with bicycles.	2/5/2020 7:44 PM
230	The idiots that somehow attain their licences around here can't even navigate a damned round-about... you expect them to be able to comprehend a one-way street? I've lived in many places in the US and the Tri Cities has the WORST drivers of anywhere that I've lived. There will be idiots finding themselves driving the wrong way down one of those streets every day!	2/5/2020 7:30 PM
231	Over the past several years, Richland has reduced the traffic flow in town and has made travel worse. For those who are elderly and/or cannot walk/bike, they have been left behind with all the "studies". The lack of City Planning has handcuffed the businesses in the Parkway and surrounding areas with lack of parking and congestion. A lot of the retail businesses on Lee have moved. The new "Study" further creates a quagmire just like all the other traffic "improvements" have done.	2/5/2020 7:05 PM
232	Construct bike and pedestrian overpasses like they have in las vegas.for pedestrian and bike travel from jadwin and george wash.above the traffic to get to howard amon park	2/5/2020 7:00 PM
233	Downtown Richland lacks the variety of shopping needed to attract more people is not practical.	2/5/2020 6:49 PM
234	The low income housing would be removed to make the couplet work. Those citizens would be evicted. It could be extremely hard for them to find housing they could afford.	2/5/2020 6:27 PM
235	There is a perfectly good bike path along the river	2/5/2020 6:02 PM
236	As a Research Engineer, I don't believe these findings are accurate. Statistical analysis of One-Way Couplets across the nation do not conclude the claimed findings of "improvements" in pedestrian and bicycle accessibility.	2/5/2020 5:57 PM
237	While converting to one-way streets may have an improvement on the walkability/bikeability of the downtown area, they are too congested due to traffic coming from Hanford/attempting to avoid the bypass highway congestion that I don't see a net reduction in lanes to be worthwhile.	2/5/2020 4:34 PM
238	One-way roads would lead to confusion and buildups on highway on ramps off Jadwin.	2/5/2020 4:23 PM
239	I can't support this finding as Civil Engineer as I have not reviewed/seen what went into this study	2/5/2020 4:15 PM
240	As an engineer, I can't support the finding without actually seeing the process and the numbers that went into the study. A report of the findings should be released to the general public so they can make an informed decision.	2/5/2020 4:14 PM
241	Recognize this would support dual objectives but doesn't improve critical traffic issues.	2/5/2020 4:01 PM
242	answered yes	2/5/2020 3:18 PM
243	Each of the proposals eliminates lanes of traffic. Waste of money.	2/5/2020 3:14 PM
244	It will increase traffic and make Richland a less desirable place to live and do business	2/5/2020 1:57 PM
245	Without a road diet nothing will improve. Couplet will just encourage speeding.	2/5/2020 1:39 PM

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246	Lots of people visit richland for work and personal reasons. One-ways are confusing and out-of-towners who do not understand how they work can cause accidents. Also, they are frustrating in general and may discourage people from traveling downtown.	2/5/2020 1:12 PM
247	DO NOT PREFER ONE WAY STREETS.	2/5/2020 10:03 AM
248	stupid	2/5/2020 7:15 AM
249	Sustaining the current level of vehicular traffic flow is antithetical to creating a safe and pedestrian-friendly area. Encourage drivers to find other routes.	2/5/2020 5:07 AM
250	Doesn't account for access from existing bike/pedestrian paths	2/4/2020 5:20 PM
251	I have lived/worked in areas with this configuration and did not find it to be all that efficient. Nor did it increase the walkability factor of the downtown area.	2/4/2020 5:03 PM
252	Knowing current usage, this would increase traffic congestion and make turning onto these new one-way roads very difficult.	2/4/2020 4:18 PM
253	There is an excellent bike path just a block east. I don't see a need for a bike path along G-Way. Traffic is a nightmare and eliminating lanes won't help.	2/4/2020 4:15 PM
254	I would like the road to remain the way it is for the sake of costs and convenient travel routes. The pedestrian/cyclist safety is fine as it is.	2/4/2020 1:22 PM
255	Plenty of areas for bikes and not have them on the street	2/4/2020 1:12 PM
256	It's a waste of money that will only screw something up that works now, and just for the sake of being more like places like Seattle. We are not Seattle. One way streets suck if you've ever been exposed to them, which I have.	2/4/2020 12:51 PM
257	It will cause other problems for traffic.	2/4/2020 12:11 PM
258	You do this and downtown businesses will die. It's proven. I live on G-Way and will lay down in front of any changes.	2/4/2020 11:19 AM
259	Traffic already slows unnecessarily on the current curve near Jadwin. Adding additional curved sections will slow traffic even worse, instead of consistent speed throughout.	2/4/2020 11:17 AM
260	I recommend no changes to the GW Jadwin ideas	2/4/2020 10:56 AM
261	This is only a half-measure if the one way concept doesn't run further North.	2/4/2020 10:42 AM
262	This is a terrible idea. Why are we accommodating to such a small group rather than the thousands of cars that drive here daily?	2/4/2020 10:27 AM
263	IT WILL EFFECT THE BUSINESSES AND I WON'T WASTE GAS TRYING TO GET TO A CERTSIN PLACE BECAUSE OF ONE WAYS.	2/4/2020 10:11 AM
264	its how i feel	2/4/2020 9:37 AM
265	I have lived in two cities similar to Richland (Billings and St Joseph) and they are in process of undoing this.	2/4/2020 9:06 AM
266	I cannot appreciate roundabouts!!! People here cannot seem to figure them out.also i do not think we need to fix something that isnt really broken. People need ti slow down and plan the days activities acordingly.	2/4/2020 9:06 AM
267	traffic will be horrific, if we think it's bad now. Leave things alone as they are.	2/4/2020 9:05 AM
268	One way streets will cripple current businesses. If they aren't convenient to get to both directions, people will just find somewhere else to go	2/4/2020 9:03 AM
269	Mixing cars and bicyclists/pedestrians is ill-advised. The strong majority of congestion is due to vehicles, please don't take resources away from the problem.	2/4/2020 9:02 AM
270	Oneway driving is problematic and parking on the left is not favored.	2/4/2020 8:56 AM
271	Would prefer the road diet - downtown would be more pleasant in general with fewer cars	2/4/2020 8:23 AM
272	There are great bicycle paths along the river.	2/4/2020 8:09 AM
273	I don't believe it will improve traffic flow enough to justify the cost.	2/4/2020 8:07 AM
274	Leave as is !!!	2/4/2020 7:56 AM
275	Ban cars from the road and make it for biking and walking only in downtown	2/4/2020 7:34 AM

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276	I don't believe it will be sufficient without expanding Jadwin to at least 3 lanes. also believe that there is a choke point where the 2 roads recombine before leaving richland	2/4/2020 7:06 AM
277	Vehicles are still permitted and pose a huge hazard for pedestrians and bicyclists. With a climate crises happening, condoning unnecessary vehicle use is wildly inappropriate.	2/4/2020 6:22 AM
278	One way roads allow vehicles to travel too fast for ped and cyclist safety.	2/3/2020 11:12 PM
279	The consultants are traffic engineers. The process is flawed as level of service is given equal value to active transportation. We need to make it safe for active transportation. It's not the responsibility of Richland to accommodate selfish, single occupancy travel through town.	2/3/2020 10:08 PM
280	one way streets are confusing, and dangerous for people trying to change lanes to reach a business or other destination. Services, such as police and fire, would take longer to respond when minutes count. Our weather-hot Summers, cold Winters, don't support cyclists-or pedestrians for that matter. Whose going to look after all those trees? More water used, and workers to pay. This isn't Seattle, or Portland. Stores in downtown are typically closed early, and even the public market in the Summer is only open 1 day for a short time, and impossible to go to if you work the typical Mon-Fri. Parking in that area doesn't support many vehicles. One way streets make it difficult to access Howard Amon from the North. A better solution would be to install pedestrian and bicycle overpasses from the park to downtown.	2/3/2020 7:54 PM
281	Hanford and PNNL traffic in and out of Richland is priority over bicycle and pedestrian access which is readily available along the river. Bicycle lane should be expanded along the river which connects with the other city bicycle and pedestrian routes.	2/3/2020 7:20 PM
282	That vehicle traffic flow will be impeded.	2/3/2020 6:38 PM
283	I think the City needs to wait until the bridge is open and assess the impacts from that. 240 needs to getting moving if you want to cut down on traffic.	2/3/2020 6:15 PM
284	N/A	2/3/2020 4:39 PM
285	The amount of current/potential bicycle traffic in this area does not warrant shifting traffic to a One-Way Couplet as proposed.	2/3/2020 4:34 PM
286	I've lived in other cities with one way streets and did not like the traffic flow and difficulty getting to the businesses	2/3/2020 4:16 PM
287	The problem I have is reducing the number of lanes in favor of 'other uses'. Creating the one-way streets might help with some of the traffic issues, but I would prefer to see bike lanes improved on the riverfront and parking to remain off-street.	2/3/2020 1:51 PM
288	If the VOLUME and SPEED of the traffic isn't reduced, we still have problems. (not enough characters for my response)	2/3/2020 12:28 PM
289	One way streets make navigating less convenient when you want to visit businesses down either corridor.	2/3/2020 11:59 AM
290	This option will not cut down on traffic. Put in pedestrian bridges over George Washington Way.	2/3/2020 10:44 AM
291	N/A	2/3/2020 10:20 AM
292	You're prioritizing bicyclists (the few) over cars (the majority) because of how vocal they are and it will make driving in Richland a nightmare, ultimately to the detriment of businesses as well as unnecessarily angering commuters.	2/3/2020 9:55 AM
293	The by-pass highway should be used more efficiently. The changes to roadways in Richland affected by the hanford commuters would be helped by that. The bypass highway should be a highway without a bunch of streetlights so it can effectively BYPASS the city as it was once originally intended. As a former Richland dweller, changing the streets to one ways will not help because you still have a street light every corner and the traffic will get backed up because of those stoppages.	2/3/2020 9:04 AM
294	The traffic issues at rush hour in the evening will only be exacerbated by creating one-way streets. It is also not at all clear how you intend to make GWW between Jadwin & Bradley suitable for one-way travel. Rather than trying to make one of the busiest roads in Richland more bike friendly for a couple of blocks, the team should take advantage of the property between GWW and the river -- improve access to the existing bike path or make Amon Park Way exclusively for bike and pedestrian travel. I believe the one-way proposal is ridiculous and short-sighted!	2/3/2020 8:52 AM
295	One-way roads are annoying, even for bicyclers like me, since turning left becomes even harder. Plus if I need to backtrack I have to cross over and get to the other one-way street.	2/3/2020 8:26 AM

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296	It would cause vehicles to take alternate routes which are less pedestrian friendly which would create an increased safety concern. Therefor nothing is gained, just shifting the "problem" from one area to another.	2/3/2020 6:19 AM
297	While I do think it will help to improve pedestrian and bicycle accessibility, it will only rearrange the traffic problems, not solve them.	2/3/2020 6:14 AM
298	\$7+ million \$ for 7 blocks of bike lanes is ridiculous!!!!!!! Access restrictions to many business will result from one way travel. Loss of business parking and commercial land for GWW to Jadwin joining roadway equates to loss of future real estate tax revenue to the city. with one way each direction we already have more than 3 lanes of travel in both directions.	2/2/2020 8:54 PM
299	We live in North Richland. To get out of town, our choices are the by-pass, Stevens, Jadwin and Geaorge washington Way. The Bypass is hard to use certain times of the days.Its nice to have alternate routes, plus it is faster for us to use GW than MOST of the time, vs the bypass. Stevens used to be an option, but you dropped the speed on it. I get it, it's through a residential area. Then you reconfigured Jadwin, and I have to tell you, most people I talk to hate it. If you need to quickly get through town the only option is GWW. North or South bound. You are severley handicapping those of us who live on the North side of town and not near the by-pass, an effective way to get through town. If you think moving 4 lanes to 3 lanes in each direction will help traffic flow, you are mistaken. We have 3 lanes now... By your traffic repatterns you are handicapping the people who live up north on GWW. You want to make it pedestrian friendly. You made a beautiful walking path! We have places to walk. In town we have ample side walks. Bicycles can also use the river path, and can cut over to GWW in specific places to get to the downtown. We have done it! Are you trying to turn this town into a slow moving retirement place? Beware, because people will get tired of it and choose to live elsewhere. In essence, we HAVE places for walking and bicycles, but you keep cutting down the traffic so that we will have no choice but to sit in gridlock on the bypass. Jadwin is NOT a fast street, plus the expense of taking out buildings and building a new road. Unnecessary in my book! g	2/2/2020 5:54 PM
300	Leave it as is why make the most congested streets already into three lanes is ridiculous. What is needed is to make a bridge from north Richland to Pasco. That would reduce traffic on the by pass and GWay.	2/2/2020 10:11 AM
301	The One-Way Couplet connects on each end to the existing roads thus will do nothing to relieve congestion going through the area.	2/2/2020 9:06 AM
302	One way streets are completely illogical taking in to consideration the amount of elderly in our neighborhood. It is highly unlikely they would be able to grasp the baisicly concept of a one way road. They can barely stay in their own lanes. It would most certainly lead to many accidents	2/2/2020 7:40 AM
303	As someone who lives in North Richland and works downtown, I feel that this plan ignores the needs of Richlanders for the sake of those who live outside of the "old" Richland and commute to Hanford. The changes already made to Jadwin penalize those of us in north Richland and have increased the potential for accidents at the intersection of Jadwin and Williams. (I have been nearly hit 3 times since these changes were made, by people who didn't realize they needed to be in the left lane to continue on Jadwin.) The couplet will just make things worse again and make it hard for people in North Richland to have access to Howard Amon Park and businesses, especially as Lee no longer connects eastbound to George Washington Way.	2/1/2020 10:03 PM
304	I chokes off north bound traffic on Jadwin between Swift and Williams. Business in this area are only accessible from the north. There is a bike path next to the river that is much better than George Washington Way.	2/1/2020 7:10 PM
305	disruptive to local business with much benefit	2/1/2020 3:04 PM
306	Traffic is a bigger problem than pedestrian or bicycle assess ability. We have great bike trails by the river and next to the bypass highway.	2/1/2020 12:47 PM
307	To change would be VERY inconvenient and NOT necessary. It would block convenience to some places. The block on Lee that is one way is already inconvenient!!	2/1/2020 12:24 PM
308	NA	2/1/2020 11:56 AM
309	One way streets cause confusion and you are talking about changing a major street	1/31/2020 6:26 PM
310	I am concerned that we are putting the needs of A FEW bicyclists before the needs of THE MANY vehicular travelers, especially Hanford/WSUTC traffic flows. The G-Way/University Drive revision, to add a bicycle lane, has been completely useless and inefficient for work commutes in that area. All to benefit THE FEW bicyclist.	1/31/2020 2:47 PM
311	Fix the bypass before doing anything else	1/31/2020 2:25 PM
312	this will impact businesses in downtown richland and make it harder to navigate the area	1/31/2020 1:58 PM

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313	It would turn into a disaster zone.	1/31/2020 1:05 PM
314	While i am ok with the one way traffic, some of the additions concern me. The project overview does not call out concerns for bike traffic, so the extra bikelanes seems out of scope (in addition to being dangerous when they abruptly end). And street parking will only cause traffic congestion as people try to figure out parallel parking on already busy roads. Get rid of those things and i think it is fine.	1/31/2020 12:51 PM
315	we have a gorgeous river-side bike/walk path and anytime me or my family bike to that area, we love that trail. we do NOT want to be on the main road and only one block up. Makes no sense.	1/31/2020 12:45 PM
316	Making each road a one way would make traveling for us who live in town more more complicated, and make it quite difficult to make it to our favorite businesses.	1/31/2020 12:21 PM
317	There is a very suitable bike path right next to the river that cyclist can use. Roads through downtown should focus on getting vehicle traffic in and out of Richland most effectively.	1/31/2020 11:42 AM
318	Too confusing.	1/31/2020 11:35 AM
319	Traffic is bad as it is, so I don't see how reducing the number of lanes in order to make room for an additional bike path makes any sense. Assessment said 3 lanes would be sufficient, but for how long?...	1/31/2020 11:25 AM
320	I think it's a fantastic idea. If Madras, OR can make it work, we certainly can.	1/31/2020 11:23 AM
321	It has been my experience that Jadwin has many stores and stops on my daily route. makit it a 2 way would greatly hinder my work flow. also the problem with George Washingto trafic it the end of the road where we get on the highway not that part of george washington. I feel this would add more inconvenience than it is worth to make a two way.	1/31/2020 10:55 AM
322	I feel the Jadwin Option Alternate with 3 lanes each way plus a center lane will be the best. G.Way must remain 2 way traffic for business & park access.	1/31/2020 10:17 AM
323	New/young drivers relearning routes - Hanford High being on Gway	1/31/2020 10:06 AM
324	I believe this will only make the 5:00 rush worse. It's horrible driving ANY of the streets leaving work. They are ALL busy at that time, so narrowing down options will not help traffic flow. Just puts more vehicles on one road at the exact same time.	1/31/2020 9:26 AM
325	Funneling all traffic to one road is not the best alternative. Increased traffic in small amount of space introduces additional hazards (ped, vehicle accidents, etc). In addition, Jadwin is not a straight road, some citizens have trouble navigating the road now without slowing drastically (5-10 mph under speed limit). Richland businesses are already struggling and this would put undo burden on them as a lot of their sales come from opportunistic drive by shoppers.	1/31/2020 9:20 AM
326	The distance is short and will create issue with merging - it doesn't solve the issue for end of day traffic on g-way from jadwin to the highway.	1/31/2020 9:09 AM
327	I've seen what happens when a main road is turned into a one way. It causes more problems than it solves.	1/31/2020 9:00 AM
328	Wasted money on the consultants.	1/31/2020 8:58 AM
329	One way streets are awful and confusing. Take the lights off the bypass.	1/31/2020 8:55 AM
330	G-way travel takes 7 minutes longer at peak hanford commute. Why invest millions more for the hanford employees problem. The easier their commute is, the less people will use any public transportation.	1/31/2020 8:26 AM
331	Concerned that the shift will make the commute difficult/slow and also difficult to eat lunch downtown (during the work week) due to the length of time needed to travel.	1/31/2020 8:24 AM
332	Stop treating bicycle and vehicle separately. Design bike lanes with the goal of moving all traffic more efficiently. Whatever you do don't design bike lanes that encourage motor vehicle traffic to turn across a lane of bicycle traffic. I felt safer riding on Gway before the bike lanes were added and cars made their right turns from near the right side of the road. The new road markings have lead most drivers to approach and make their turn 10 ft from the edge of the roadway.	1/31/2020 8:21 AM
333	I beleive given facts and history that a one way option will make traffic worse.	1/31/2020 8:20 AM
334	Changing to one-way will cause confusion in a town that has no other one-way roads.	1/31/2020 8:20 AM
335	This will do no good without timing stop lights. Please install a smart light timing system	1/31/2020 8:19 AM

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336	The current road configuration works. Other changes at Gway and Columbia Point Dr should be considered first such as an overpass to maintain traffic flow.	1/31/2020 8:19 AM
337	1: In North segment where Jadwin and modified Guyer merge WILL be a mess. 2: Swift between GWay and Jadwin is already bad enough. In this scenario, every vehicle leaving a Gway business that wants to go south will be forced onto this very short road. The same thing will happen to Knight for people leaving Jadwin businesses but needing to go north. 3: People leaving the Parkway will be forced to go south unless you manage to open up Lee east of the roundabout. 4: Jadwin currently serves as a pressure relief for Gway during the evening commute. With the proposed one-way couplet, a single accident will completely stop the commute since there will no longer be a pressure relief option.	1/31/2020 8:15 AM
338	It will make travel more complicated and businesses will suffer as customers will have to travel farther to get to them if they are not in the correct direction.	1/31/2020 8:14 AM
339	I do not think this will actually help with traffic flow	1/31/2020 6:57 AM
340	I think the one way route would make it more difficult to get around town, especially since George Washington Way connects to the highway.	1/30/2020 11:37 PM
341	Traffic already backs up during rush hour, this would make it far worse	1/30/2020 7:56 PM
342	As I understand the "vision", there are 2 goals. One is to create a better connection between the water front and a 5-7 block downtown area. Secondly, to enhance this area so bike riders and walkers can "share the space" with vehicle traffic in a safe and pleasant way. Sidewalks and crosswalks are already present, but perhaps, additional crosswalks and maybe a pedestrian bridge or tunnel could be added for more safe street crossing. My concern is has to do with the accommodations for bike riders. I have nothing against bike riders, but the amount of effort needed to make the proposed changes so bikes can be ridden on this short stretch of roadway seems unnecessary. Bike riders can approach the downtown area from the bike/walking path by the river, then park their bikes and simply walk to the downtown area. Perhaps some bike riders can approach the area from another direction, but again, they can park their bikes and walk . Providing several bike racks in different areas for this purpose makes sense to me. There really is no need for them to bike through the area, since there are already accommodations for walking. Another group of citizens to be considered are those who live too far away to reasonably walk or bike to the area in question. The amount of road side parking that would be created with the proposed changes would not result in very many parking spaces and these spaces would require people to park, exit and enter their cars in the midst of heavy traffic. I would suggest creating a parking lot that would provide more space and safer conditions for those who will visit the area with their cars. The vacant restaurant currently across from Sterling's could instead be a parking lot that would provide access to both the park and downtown!	1/30/2020 7:07 PM
343	Slowing traffic	1/30/2020 6:52 PM
344	It would heavily back up traffic on both streets since normally Gway is packed during the day, and trying to limit all the 1 way traffic to jadwin only, would make getting onto the highway so much more difficult	1/30/2020 6:06 PM
345	Traffic is overly heavy now and with a small town mentality, changes such as these will cause allot of reluctant drivers and feel it will contribute to more congestion. I live in north Richland and shop in town. This will make that a lot more difficult.	1/30/2020 4:50 PM
346	One way through downtown will interfere with both travel time and ease of travel.	1/30/2020 4:39 PM
347	Bike paths are great, but before you make a bunch of changes does it fit with a long range strategy? sell me on that first.	1/30/2020 4:22 PM
348	There are perfectly good bike paths along the river that provide a safe path for cyclists. Reducing vehicle lanes and commingling bicycle traffic with cars and trucks seems like a poor alternative to the status quo.	1/30/2020 3:56 PM
349	one-way roads are never the answer	1/30/2020 3:52 PM
350	NA	1/30/2020 3:25 PM
351	Just personal experience. I dislike cities with one way streets. Parallel parking on the left is difficult. I find one way streets a deterrent rather than an attraction.	1/30/2020 3:23 PM
352	Property acquisition to support north end mod to Jadwin.	1/30/2020 3:09 PM
353	N/A	1/30/2020 2:57 PM
354	I worry it'll make it impossible to navigate through Downtown Richland.	1/30/2020 2:54 PM

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355	na	1/30/2020 2:54 PM
356	Any option that disrupts vehicle flow without freeing vehicle flow on the bypass will result in congestion. Also, the balance on bicycle flow vs. vehicle flow should be ratioed by actual use population, not by special interest.	1/30/2020 2:45 PM
357	Too much traffic without an alternative route, the "bypass" should actually be a bypass and have no traffic lights. This way people could avoid travelling through the city.	1/30/2020 2:26 PM
358	Improve access to bicycle and ped paths that run parallel but separate from the street.	1/30/2020 2:17 PM
359	N/A	1/30/2020 2:00 PM
360	N/A	1/30/2020 1:58 PM
361	On street parking in that area seems to be a waste of space. Most or all local businesses have parking lots. Bike path would see little use unless tied into the park system, in which case it might make more sense to expand the bike lane through the park in that section of town. One way streets would greatly affect Cool Desert Nights and other events at or near uptown that might require road closure. Does not appear to add enough new lanes of traffic and thus would likely do little to improve traffic flow.	1/30/2020 1:54 PM
362	The one-way grid will, on it's own, not help our down-town area. We need the "road diet" option to allow for diagonal parking spaces, more landscaping, and pedestrian/bike improvements. Then lower the speed limit, after improving the bypass.	1/30/2020 1:17 PM
363	Greatest concern given the present condition is traffic flow during commuting hours. Second concern is accessibility of businesses in the area.	1/30/2020 1:16 PM
364	reduce traffic downtown by making the bypass a bypass - removing traffic lights on the bypass	1/30/2020 1:11 PM
365	Bicycle traffic is the least reason to reroute the thousands of vehicle that pass through Richland at least twice per day and stop at various business as they come through town before, after and during the day	1/30/2020 1:11 PM
366	one way is never convenient	1/30/2020 1:01 PM
367	Each of the one way street options proposed includes an overall reduction in the total lanes of traffic. This not only limits traffic movement through the area but can also negatively impact the growth potential of areas north of downtown Richland. Travel in Richland has gotten noticeably more challenging in the past decade and taking away lanes will not improve the problem.	1/30/2020 12:45 PM
368	no concerns, I said yes but couldn't skip this question	1/30/2020 12:07 PM
369	I have lived in a city with one way streets and found that I spent a lot of time going around the block to get to where I was going that was on a street going the other way.	1/30/2020 12:00 PM
370	One-way streets make it difficult to access businesses	1/30/2020 11:14 AM
371	I do not believe it would improve the traffic because you will put more vehicle going one direction vs. controlling the congestion.	1/30/2020 11:08 AM
372	I think that "improving pedestrian and bicycle accessibility" is just a facade for the real reason: trying to force people to patronize businesses in downtown Richland. These businesses need to succeed or fail on their own merits, not through unneeded traffic revisions.	1/30/2020 10:27 AM
373	One-Way Couplet provides fewer alternative routes and instead promotes going the long way to get to destinations. This uses more fuel, puts more wear on streets, and more mileage on vehicles. We need more lanes of traffic going in BOTH directions. A majority of Richland traffic is for commuting to PNNL/Hanford. Creating one-way roads promotes traffic and congestion along with increased frustrations.	1/30/2020 10:22 AM
374	it is already a mess- Gway should be 3 lanes each way	1/30/2020 9:54 AM
375	Instead of parking in section 4, another lane would be nice to reduce congestion.	1/30/2020 9:54 AM
376	have not seen the data	1/30/2020 9:45 AM
377	One-way couplets in other cities motivate me to do business in some other part of town. This idea works to improve the flow of through traffic but hinders local navigation to businesses. Money should be spent on making the by-pass highway limited access.	1/30/2020 9:43 AM
378	You will still have bottlenecks at both ends. Right now Jadwin is a great alternate when G-Way is clogged. This is going to wreck both streets.	1/30/2020 9:38 AM
379	The afternoon commute going home can be traffic at times especially when there is early	1/30/2020 9:34 AM

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release. There was a time it took me several hours just to get out of GWay. Even with two lanes on GWay and two lanes on Jadwin, the traffic is still bad and can take you hours to go home especially during the winter season.

380	One ways suck in other cities. Confusing. Don't do that here!	1/30/2020 9:34 AM
381	The inability to get to some businesses easily. Also one way streets become a safety hazard because of those people who don't pay attention and go the wrong way! I also think many people will start using parking lots as cut throughs.	1/30/2020 9:24 AM
382	N/A	1/30/2020 8:08 AM
383	Traffic flow needs to be enhanced, not just maintained - it's already congested & proposed attractions downtown will make it worse	1/30/2020 8:06 AM
384	I DO NOT SUPPORT ANY REVISION THAT DETERS TRAFFIC FROM MY BUSINESS. TRAFFIC BRINGS PATRONS, NOT ON BICYCLES BUT IN VEHICLES. YOUR ONE WAY MOVES MY PATRONS	1/30/2020 7:08 AM
385	N/A	1/30/2020 5:45 AM
386	I don't believe it will make that difference	1/30/2020 3:45 AM
387	I strongly favor the option to narrow George Washington Way to three lanes. There are several advantages to this: 1. Fewer lanes will discourage through-traffic, especially if combined with a reduced speed limit. 2. The space gained will benefit pedestrians, cyclists, and handicapped people, and also give room to parking. 3. Fewer lanes will make the road "feel" less like a thoroughfare and more like a town street, and drivers will adapt their speed and driving styles accordingly. This last point is also the main reason that the other two options won't solve the problem. If changed to one-way, both GW Way and Jadwin will read as big streets for driving fast. Drivers will not be paying as much attention because they'll expect everyone else to be going the same direction, as on a highway. Widening Jadwin would only transpose GW Way's issues onto another street, which isn't fair to people who live and work there. In my experience, more room to accommodate traffic only encourages more traffic in that area. It's sort of like buying a larger home if you have too much stuff—eventually, you'll just get more stuff, and feel just as crowded, because you thought there was surplus space. If there are too many cars headed to Hanford for GW Way and the Bypass to handle, then we need to look at alternative methods. A bus, train, or other mass-transit system would go a long way toward decreasing traffic and road wear, increasing pedestrian safety, and lowering the smog levels in the Tri-Cities (an issue that people forget about, but one that's especially serious during fire season, or whenever there is an inversion).	1/29/2020 5:45 PM
388	haven't heard enough yet	1/29/2020 4:48 PM
389	One way streets increase time to get to-from local businesses. They also limit routes for emergency vehicles which increases response times.	1/29/2020 4:13 PM
390	How will customer access a business that fronts on either GW or Jadwin from the opposite direction?	1/29/2020 4:09 PM
391	Waste of taxpayers dollar.	1/29/2020 2:52 PM
392	Restricts drivers to a single direction and causes a driver to take unnecessary detours to reach a destination. This will add more travel time while driving downtown due to detours created to accomodate pedestrians and cyclist that aren't around during the prime traffic time. Most cyclist are smart enough to use the established bike trail in Howard Amon to get to and from their destination.	1/29/2020 2:07 PM
393	One way streets are not the answer. Often, people will need to drive all the way around the block just to get into a parking lot. I would encourage people considering this to spend time driving around downtown Spokane; it's awful	1/29/2020 2:01 PM
394	I believe that this will just add to the already too much road rage situations and traffic frustrations we currently have, especially during peak "Hanford Traffic" times both morning and afternoons.	1/29/2020 1:51 PM
395	there are not enough people that ride bikes to justify our tax dollars being spent to aid a few	1/29/2020 1:11 PM
396	capacity of traffic in the tri citys is worst during rush hoour times. Proposed plans do nothing to address the heavy traffic issues that occur at other ends of town. I feel this change will push more traffic onto the bypass that is already a mess. Do we really need 2 way bicycle traffic on G-way and Jadwin? Will it get used?	1/29/2020 9:39 AM
397	With the amount of congestion that GW gets with two lanes during rush hour a one-way road	1/29/2020 9:31 AM

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would be even worse.

398	One way would inhibit vehicle travel and would make navigating downtown Richland and G-Way to and from work more difficult. Not enough poeple in Tri-Cities ride bikes/walk through downtown to make it necessary for accomodations for them. Why make everything more difficult for the majority?	1/29/2020 9:28 AM
399	It seems like a lot of gentrification for 45 year old males to ride their bikes. When the University of Washington set out to prove that Seattle had gotten it right. They instead showed that lower income and minorities were shoved out of the city.	1/28/2020 9:46 PM
400	Cars will still drive too fast putting pedestrians and bikes in danger.	1/28/2020 9:07 PM
401	None	1/28/2020 6:29 PM
402	There are already major bicycle routes that go between north and south Richland that don't put them in competition with vehicular traffic.	1/28/2020 6:17 PM
403	Have to write something for it to let me go on	1/28/2020 5:55 PM
404	N/A	1/28/2020 5:39 PM
405	There's a bike path Jadwin and the river already.	1/28/2020 5:23 PM
406	One great thing about Richland is that there are many options of roads to travel on. Nothing is 'out of the way'. When I know one road will be busy because of Hanford traffic, school traffic, etc., I can choose a different route. Making those two MAIN roads one way will limit those options. I travel on both roads very often. In don't want to have to fight Hanford traffic while trying to get to play rehearsal at The Richland Players. That's why I go down Jadwin. If it becomes Southbound only, I will have no choice but to join the crazy traffic. That is just one example of many. I am HIGHLY against this idea. We are NOT Spokane or Seattle. It's bad enough that we have so many round abouts. We are a small town and we like it that way!!	1/28/2020 5:13 PM
407	I feel it makes it less safe for my children and I to walk or bike to the riverfront or John Dam Plaza. My children are you, we live on Thayer, we walk to the uptown and crossingJadwin or G Way in the current or in the favored change is dangerous and irresponsible.	1/28/2020 4:36 PM
408	It's not broken.	1/28/2020 4:36 PM
409	This area does not adapt well to one way. If this were in the early stages of street development it wouldn't be a big deal, but to make a major area conver to one way would severely impact business and traffic flow. I do not think this has been fully looked at.	1/28/2020 4:34 PM
410	You're making businesses in that area harder to access. Have concerns about emergency vehicle response times.	1/28/2020 1:28 PM
411	need a bridge in N Richland to Pasco first; then we can address downtown Richland	1/28/2020 1:23 PM
412	Unsightly double loading of businesses attempting to face both. Unsightly added signage.	1/28/2020 8:37 AM
413	The Road Diet is a better option for downtown businesses	1/28/2020 8:05 AM
414	George Washington Way/Jadwin Ave are one of the primary routes for traffice to and from Hanford. By funneling all traffic to one way on either road will eliminate an emergency exit from Hanford and/or north Richland. Forcing all traffic onto one road will create traffic congestion problems throughout Richland. This will force traffic into residential neighborhoods that were never designed to handle the extra traffic safely. As a 20 year resident of Richland, I think this is a horrible option for business, commuters and residents.	1/28/2020 7:54 AM
415	I do not believe it will work unless you make GGW one way the entire distance and jadwin one way the entire distance of the street. It should not have been approved for PNNL to close the north end of richland for the PNNL campus. I recommend adding additional lanes on both streets	1/28/2020 7:36 AM
416	I believe this will reduce traffic to the businesses and parks located nearby - particularly on the George Washington side. I know personally, the change in traffic would deter me from visiting the uptown, parkway, Howard Amon, farmer's market, etc.	1/28/2020 6:41 AM
417	The proposal includes taking out a lane of traffic. If you have a traffic volume problem taking out a lane of traffic make no sense on this planet or any other planet. Although from my answers to this survey it may not seem that I value access by alternative transportation; however, I am an avid bike rider and travel to downtown by bike more often on a bike than I do with a car. The bike trails already provided are adequate and additional bike lanes are not needed. I would likely not use a bike lane next to traffic where I would be breathing exhaust.	1/28/2020 6:26 AM

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418	The largest issues lie in the commute home at around 4:30 every day. Redirecting traffic is not going to solve this problem. Something needs to be done to solve this issue before worrying about traffic through downtown. It is currently impossible to get anywhere in Richland from about 4pm to 6pm.	1/28/2020 6:23 AM
419	aggravates mess if there is an accident or bad weather	1/28/2020 6:18 AM
420	Seems it would create more congestion and lack of ease to get to businesses	1/28/2020 6:13 AM
421	There is a lot of vehicle traffic on both George Washington Way and Jadwin. I almost never see pedestrians walking on the sidewalks. There is a beautiful bike path along the river. Why would you increase delays in vehicle traffic to accommodate non-existing pedestrians and duplicate the existing bike pathways.	1/27/2020 10:15 PM
422	One way streets are very hard for people who are not used to them to navigate. My family has gone the wrong way down one-way streets in Seattle far too many times for me to truly believe it would be a safer option. Furthermore, with G-Way being the main artery of Richland turning it into a one-way street will make a lot of commutes more complicated and long-time members of our community frustrated, upset, and cranky. I do not believe the downtown area is likely to become the space Richland seems to want it to be (who would it draw?), so I truly believe doing this really will just make people mad.	1/27/2020 8:50 PM
423	One way streets may impact the small businesses that line both streets. I would suggest just reducing the speed limit on G Way to 30 mpr	1/27/2020 7:38 PM
424	Ridiculous idea that will screw things up even more than they currently are.	1/27/2020 7:11 PM
425	People hate one way streets.	1/27/2020 7:08 PM
426	There is no real problem	1/27/2020 7:00 PM
427	Living off of Jadwin, this option would be an issue for accessing my home easily and lead to less efficient driving, as one-way streets end up meaning I have to go in circles to get to my destination	1/27/2020 6:42 PM
428	Feel changing the diriection of the streets during non high volume times will confuse some of the older long standing residents, that will cause other issues/accidents during the day.	1/27/2020 6:15 PM
429	The design works currently as is. There is plenty of park space for recreation and businesses that are easy to access by walking, biking or driving.	1/27/2020 5:14 PM
430	Traffic is already difficult in the parkway region. Parking at the parkway is a nightmare and many avoid the area because of that. "Downtown" Richland is not a tourist attraction and I fail to see why the city persists in trying to make it one.	1/27/2020 4:39 PM
431	The Road Diet is an economically feasible option that we could afford much sooner.	1/27/2020 4:29 PM
432	Transitions from/to two-way and one-way streets	1/27/2020 4:25 PM
433	It does not connect the river to downtown. It will decimate the businesses by separating them from parking with a wide, high-speed road. The study was supposed to connect east-west walking & biking trips but the couplet just moves cars north-south. Why bother spending the money if we don't accomplish the objective?	1/27/2020 4:19 PM
434	This is obviously someone's pet project in the city. I went to the open house and was not impressed with director of public works Pete. He does not want to hear anything that goes against this project. We do not need this. We have beautiful parks with amazing bike paths, so why would you want to bike on GW! The only time people are walking down town is when there is a large event (i.e. art in the park, farmer market, etc.) If you want to make it more walkable provide a parking garage where you just tore down the old city hall building. Richland is not Seattle and the way our infrastructure is built it will not support this change. If you truly want to make this a walkable city, go into the neighborhoods and put in sidewalk and get cars off the sidewalks. That is where most people walk is in their neighborhoods. If you need to spend money, there are many other ways to spend it. I know "grants" will pay for this project, but when you go over budget I am going to get stuck with another \$30 car tab to pay for a pet project. Please listen to your residents and do not make these changes. Also, I am concerned about the low income housing you will be removing on GW. with housing at a premium, where do you suggests these people live? According to Pete "You assume this would be a negative", Yes I do think it is negative to remove housing for people that struggle day to day.	1/27/2020 3:52 PM
435	Money would be better spent to go towards a bypass system for those traveling to/from work through downtown Richland. This would alleviate the amount of cars traveling too fast/unsafely through Richland. Turning the streets into one ways is just going to exaberate the problem and create additional hold ups other places. Why can't money go towards fixing the bypass by	1/27/2020 1:31 PM

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creating overpasses? Also, downtown Richland needs more parking. My family will avoid this area on certain days/time since we know there will be no parking and we do not want to walk all over the place with young kids when the weather is bad. Did the consultant team look at what would happen if the bypass was an actual bypass?

436	Side streets will not be able to handle the flow of traffic for people wanting to go the other way. It will cause a bigger traffic issue because people will be on a one-way and then have to find a side street to try to get to their destination.	1/27/2020 11:48 AM
437	The alternative fails to meet the study objective of connecting downtown to the riverfront.	1/27/2020 10:56 AM
438	If you want people to shop, eat, and work in Richland you need to make it easier not more difficult to get to places. There is a perfectly good and beautiful bike path along the river. I don't understand why you keep putting bike paths on busy roads and taking out lanes for parking. You have already ruined Jadwin. Don't ruin George Washington Way too. If you do, then shopping and eating in Kennewick and Pasco will be where I will take my business.	1/27/2020 10:21 AM
439	More congested traffic	1/27/2020 8:02 AM
440	Right now Hanford traffic is split between 5 lanes on 2 streets (not counting Bypass) Changing to 1-Way streets, with a total of 5 lanes doesn't fix the problem, and is more likely to cause congestion with at the points where traffic splits and merges together. It also doesn't explore the option of building a second bridge to pasco, starting closer to WSU's Campus, which would divert a significant percentage of the traffic and actually remedy the problem.	1/27/2020 7:58 AM
441	Adding more complications to traffic flow in and outside of Richland is not a good idea. I would recommend more direction on overpasses to allow better flow of traffic.	1/27/2020 7:50 AM
442	Extra travel time to access parts of the city	1/27/2020 7:45 AM
443	I live right where the gway and Jadwin would switch to one lane. Already there are car accidents and you want to add to the confusion? Plus those businesses would be affected. I also just don't like one way streets. They're confusing.	1/27/2020 7:33 AM
444	Every time the city makes changes, driving gets more difficult. Both GW Way and Jadwin should have at least two lanes in each direction.	1/27/2020 7:32 AM
445	gw WAY is already difficult to negotiate with 2-way traffic. A one way street would make some of these businesses inaccessible. Leave it alone. Add more lanes, if necessary, to both streets.	1/27/2020 6:10 AM
446	Don't change the roads at all.	1/27/2020 12:20 AM
447	Can't see need for changes except for quality of street paving.	1/26/2020 10:13 PM
448	My business is on Jadwin and patients may have difficulty accessing my office from a one-way street.	1/26/2020 9:50 PM
449	Too confusing	1/26/2020 8:57 PM
450	Gww is a major thoroughfare and should be kept that way. I do not like one-way streets!	1/26/2020 8:39 PM
451	I have several concerns. G-way is already a chokehold around the parkway during high traffic and medium traffic times. We have few alternatives to getting out of Richland, so narrowing our opportunities to leave Richland, will cause more stress on the By-pass which is already a mess. In addition, you narrow that area and the ease of traffic getting through there will also decrease the traffic that goes through to the businesses further in Richland. They will struggle even more. Spend more on developing the uptown and the Fred Meyer area. Invite in businesses instead of pushing them to the other cities. Use over walkways for pedestrians. Bicyclists can use the bicycle paths along the river.	1/26/2020 8:05 PM
452	Having lived in North Richland previously and commuted to work either by way of Jadwin or GWWay, and with population growth ever increasing I just can't fathom turning GWWay into a one way, for a few blocks or a few miles	1/26/2020 8:01 PM
453	Jadwin option sounds like the best way to make downtown and the riverfront parks more pedestrian friendly.	1/26/2020 4:39 PM
454	I think it would cause traffic issues, and would make accessing downtown business inconvenient	1/26/2020 1:29 PM
455	no problem. fix gww at arron	1/26/2020 10:56 AM
456	I would much rather have a single lane two-way street with lower speed limits and bigger sidewalks. Spokane just did this with Monroe Street and it looks great.	1/26/2020 9:47 AM
457	No. I should not need to explain my logic, you asked my opinion.	1/26/2020 8:28 AM

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458	While I support making Jadwin and G-Way one-way streets, the distances proposed are too short. The streets need to be one-way from the bypass in the north all the way (somehow) to highway 182 in the south. The proposed "couplet" will do nothing to alleviate the congestion from Jadwin to highway 182. to	1/26/2020 8:11 AM
459	One way traffic is not convenient and will hurt businesses as well.	1/25/2020 9:49 PM
460	Trying to accomodate bicyclists will only make vehicle congestion even worse than it already is. The City Council will make the final decision no matter what the public wants. Just like they did on the new bridge when we the citizens voted against it. So acting like you care about what we think is insulting.	1/25/2020 9:23 PM
461	Na	1/25/2020 8:41 PM
462	It is not changing anything to improve downtown and the water front.	1/25/2020 8:40 PM
463	Too hard to get to businesses . waste of gas driving around.	1/25/2020 6:50 PM
464	Richland should be working to make vehicle traffic easier not making one-way streets or restricting lanes. The bike Lanes in North Richland are extremely inconvenient and unused. Vehicle traffic is 99.99% of the use and should be priority	1/25/2020 5:47 PM
465	Richland doesn't give a damn about how people drive through or around Richland. It's all about business and the almighty buck. Roads and infrastructure should be put in first before you overcrowd places like Columbia Point and run your own self serving studies that are guaranteed to come out the way business wants and not the community. Your first priority should be to put in a North Richland Bridge. You'll never do it. You're too greedy for growth and taxes, leading to crowded congested traffic, and a mess. If I wanted that I would move to Seattle or Portland.	1/25/2020 4:25 PM
466	I support no change. I cannot support the lane changes in the other options. The concerns that I have with the one-way options are increased Hanford traffic congestion at critical times and how the side streets will be effected. I utilize many businesses in this area, but if they are not as easily accessible then I will not want to shop there.	1/25/2020 4:16 PM
467	One way streets will harm downtown businesses. Also, it does not effectively slow traffic. Road diet George Washington Way and fix the bypass.	1/25/2020 2:34 PM
468	These sound like the same geniuses that reduced lanes on several streets already, stifflung traffic & running places out of business. Why not consider the current resident rather than "what you'd like it to be"	1/25/2020 2:29 PM
469	It takes out important low income housing with no replacement plan.	1/25/2020 2:03 PM
470	The best method for freeing up rush hour traffic is a north Richland Bridge. The City needs to get over the need for more retail via revitalizing the Swift Corridor.	1/25/2020 1:37 PM
471	Too much confusion. driving longer distances to get to places becuase of going around the block. More gas consumption becuase of that.	1/25/2020 1:35 PM
472	Traffic flow would be impeded during peak trafgc times turning an already frustrating experience into a nightmare	1/25/2020 1:22 PM
473	the dollars spent on a one-way couplet system would be better used to on a solution for diverting hanford work traffic to the by-pass. the by-pass should become a 'true' express way, especially during the after work commute time. signals for cross streets, such as swift, van giesen, and duportail should only activate for cross traffic every 20-30 minutes from 4:30 to 6:30 PM	1/25/2020 1:16 PM
474	There are already a number of projects in process in Richland, including the Duportail bridge. Until those projects are completed (including the ones put on hold because of the change in tab prices) the city should not be looking for any new projects.	1/25/2020 1:08 PM
475	Having traveled to Portland and Seattle regularly, I hate one way streets. They are confusing and require backtracking to reach destinations. Pedestrians and bikes should use the provided waterfront trails. The diet is even stupider, restricting the flow of traffic on an already congested area	1/25/2020 1:04 PM
476	NA	1/25/2020 12:54 PM
477	The One-Way Couplet would eliminate low cost housing in an already over priced rental housing market and would not increase traffic copasity. People rairly use the side walks and bike paths that we have. If you want to improve down town make it easier to get in and out during peak traffic times.	1/25/2020 12:08 PM

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478	Very inconvenient for shopping. It will hurt businesses all along George washington way.	1/25/2020 11:57 AM
479	one-way streets are problematic, confusing for most drivers and generally create more congestion and difficulty getting about. I do not place much value in making streets into bicycle or pedestrian avenues, that's plain silly. We are not a highly urbanized area and downtown Richland is not a desirable place to live near or in. Why drag the urban problems and approaches from larger cities into our area?	1/25/2020 11:53 AM
480	Too much driving around the blocks. Waste of gas	1/25/2020 11:34 AM
481	While I support the couplet option I am concerned about the destruction of the low-income housing currently located there. Richland does not have many options for people who are displaced by this project.	1/25/2020 11:22 AM
482	It makes it incredibly difficult to reach certain businesses.it	1/25/2020 11:06 AM
483	Too much traffic and Tri-City drivers will make one way travels too cumbersome.	1/25/2020 10:55 AM
484	Na	1/25/2020 10:11 AM
485	You would have merge over to get where you are going. Annoying and more accidents based on people won't remember it's now a one lane road.	1/25/2020 9:38 AM
486	I don't think people will bike/bike more if it is more accommodating. Especially in winter months. It already take forever to get through Jadwin and GWay. Reducing lanes for vehicle traffic would be awful. And buses see would be less accessible. Don't do it.	1/25/2020 9:36 AM
487	There is a riverfront bike path that people can utilize to avoid traffic. I don't want certain areas of Richland shut down, or made difficult to utilize existing shopping, food choices.	1/25/2020 8:58 AM
488	This would continue a high volume of traffic on G way, separating the Parkway from the park and making pedestrians feel unsafe for regular use foot traffic.	1/25/2020 7:51 AM
489	You are inconveniencing significantly more people by prioritizing pedestrian and bike traffic over drivers. You'd be better served by focusing on better traffic flow.	1/25/2020 7:45 AM
490	One way traffic won't slow cars down. I would prefer to see improved public transportation downtown. I want a downtown that is focused on people rather than moving cars.	1/25/2020 7:37 AM
491	pushes traffic to flow on stephen dr. Has heavy con gestuon from school medical facilities.	1/25/2020 7:33 AM
492	Construction is to spendy and there will have to be more taxes for that. Improve current road surfaces and educate people on current alternative routes.	1/25/2020 7:26 AM
493	One way is a terrible idea. You should narrow the streets and increase the size of the sidewalks so restaurants can use them for seating.	1/25/2020 7:19 AM
494	I think it will increase traffic through neighborhoods by people trying to avoid one way streets as well as just trying to change their direction or find a cross street to Jadwin.	1/25/2020 7:17 AM
495	My concerns for the one way couplet are that drivers will just use the many traffic lanes as an excuse to speed more and endanger more pedestrians trying to cross the streets for access to businesses, bus stops, and schools. How about improving the traffic flow by better light timing and speed enforcement! The one-way couplet makes it difficult to access the downtown businesses that I patronize in downtown Richland.	1/25/2020 7:05 AM
496	I think it will hit businesses on both streets. I don't see how or will make our better. It well still be insanely busy. We need to make the bypass a true bypass again or another idea is to make the traffic lights green going down G Way during peak rush hour and no left hand turns available onto G Way at that time. It wold make the traffic a continuous flow without disrupting any infrastructure.	1/25/2020 7:04 AM
497	I ride bikes through downtown Richland quite frequently and I believe it is very bike friendly. However I do believe there's not enough parking and with Tti Cities growing as much as it is I think those issues should be addressed.	1/25/2020 6:39 AM
498	PLEASE get parking options off the streets. Bicycle traffic should NOT be on a throughfare. Why does everything have to change, ntead of getting bicylce traffic off main streets. There are NOT enough bicyclists to warrant bicycle lanes on the main roads. NEVER have been, in the History of the Tri Cities. We are NOT Seattle!	1/25/2020 1:19 AM
499	There are no traffic congestion issues here. There are worse places to focus on, such as the death trap exit to Queensgate off the freeway.	1/25/2020 12:24 AM
500	Take away the lights on the bypass like what's been talked about for years so that the heavy	1/24/2020 10:40 PM

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traffic can stay away from downtown. And building up the busiest area of g way with the new stuff going in. You have to take away the heavy work rush. Making changes to the road direction is ridiculous when the by pass is logical.

501	poor access too business now accessible	1/24/2020 9:02 PM
502	Access to restaurants, shopping, etc. Is far less complicated without one way streets.	1/24/2020 8:29 PM
503	Why does the city of Richland bend over backward to make commuting through Richland faster. Those commuters do not live, shop or pay taxes in Richland. I live, work and shop in Richland. I'm waiting for my voice to be heard.	1/24/2020 8:17 PM
504	Please leave it the way it is.	1/24/2020 8:02 PM
505	Does not support downtown ecosys.	1/24/2020 7:57 PM
506	I think that one way streets is not a bad idea, but there are a lot more issues associated with the proposal. 240 needs to be able to absorb 80% of the traffic or it will be counterproductive. The Duportail bridge needs completed. I do not think emphasis should not be biking. There are other priorities in Richland that needs to be addressed. This proposal is a "nice to have" not a big priority.	1/24/2020 7:27 PM
507	It's a stupid idea to turn them into one way streets! And making Jadwin a street with a middle school and not residential houses the GGeo way the main road is ridiculous. Plus kids were hit on that road recently near the middle School	1/24/2020 7:20 PM
508	There is just too much traffic coming out of Richland during Hanford commute times	1/24/2020 6:47 PM
509	It's going to put more pressure on cross streets and crosswalks.	1/24/2020 6:18 PM
510	One-way streets in all other cities exclusively cause more issues than they solve.	1/24/2020 6:11 PM
511	Traffic north and south through Richland is already congested between Williams and Lee on both Jadwin and GWW	1/24/2020 6:05 PM
512	Are yall out of your minds? Traffic wouldn't work.. there is a reason it is 4 lanes Gway, and used to be 4 lanes Stevens.. look at Steven's mess now	1/24/2020 6:03 PM
513	Its not downtown Richland, its old isolated Richland. They bitched, whined and moaned when the new Queensgate bridge construction started. Leave them be, let the center of the city move on to south & west of the Yakima, where it obviously wants to go.	1/24/2020 6:02 PM
514	More reasons to avoid downtown Richland which is opposite of the objective!	1/24/2020 5:40 PM
515	Hate one way streets!	1/24/2020 5:31 PM
516	Richland is already a bottle neck, it's unbelievable these idiots want to make it worse	1/24/2020 5:23 PM
517	Access to businesses on these streets would be hard. Increase of traffic in neighborhood streets trying to find shorter routes/traffic lights. Property values going down. People who live on those streets would find it impossible to get into their homes. BAD IDEA. and it ticks me off to no end.	1/24/2020 5:06 PM
518	Creating a thorough fare for commuters does nothing to improve live ability of our downtown and community	1/24/2020 4:53 PM
519	multi-lane one way streets are more hazardous to pedestrians	1/24/2020 4:24 PM
520	Without any improvements to the bypass this will only cause more traffic problems. It seriously cuts off businesses and residents west of Jadwin and there is no way to go north from the lee and Jadwin intersection.	1/24/2020 4:17 PM
521	traffic flow will be too heavy right in front of where i work making it impossible to get into and out of the parking lot	1/24/2020 4:05 PM
522	I believe the road diet is the best option.	1/24/2020 3:55 PM
523	More confusion and congestion	1/24/2020 3:51 PM
524	Regardless of convenience to downtown, any road changes that result in less flow of traffic out of the Hanford area will cause massive traffic jams that backup. They already slow traffic in my neighborhood. Please to not exacerbate the problem by making ANY one way roads in this part of the city.	1/24/2020 3:47 PM
525	I do not agree that it will move traffic effectively and will be inconvenient for downtown shopping in that area	1/24/2020 3:25 PM

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526	The "Walkable" goal is poor. It's too hot or too cold for most residents of Richland to choose to walk or bike for 6 months out of the year. Quit wasting my tax money with this West side bs. Remove the lights on the bypass and quit screwing around with this liberal pipe dream.	1/24/2020 3:21 PM
527	One ways are the worst it's going to cause more confusion with drivers and honesty I don't see that many people riding bikes down town to justify this. This is a waste of tax payers money. I'm actually considering moving out of Richland because they manage the city so poorly. If I wanted to live in a big city like Seattle or Portland I would move there. Stop trying to make this town in to Seattle.	1/24/2020 3:14 PM
528	Monorail	1/24/2020 3:10 PM
529	Both Jadwin and G Way are full during commute times. Making them one-way would create major traffic jams worse than what we have now.	1/24/2020 2:47 PM
530	The downtown area in question is separated from the housing available in Richland. It is difficult to call this area a walking space if one must drive eight or nine miles over highways before getting out to walk. The main driver of traffic in this area is commuters. People work in this area, but can't (or choose not to) live nearby. The problem can't be solved by road alterations.	1/24/2020 2:44 PM
531	n/a	1/24/2020 2:44 PM
532	I believe we already have a beautiful bike and walking trail that takes you safely, and beautifully where you need to get in Richland	1/24/2020 2:41 PM
533	I ride a bicycle everywhere in Richland. The problem is not getting north and south, it is getting east and west. Making GWW and Jadwin one-way streets makes no sense for cyclists and will make it harder to drive and affect businesses in Richland.	1/24/2020 2:41 PM
534	lack of ease to getting to businesses, etc	1/24/2020 2:31 PM
535	We would need an interchange going southbound on g- way to transfer to jadwin. Also 3 lanes won't help much as they still get backed up near winco.	1/24/2020 2:26 PM
536	The Couplet option doesn't address the problem of connecting parkway to the park since G-Way will still have a high volume of high speed traffic. If this were done, we would need to invest in some alternate pedestrian walkways (i.e. skybridge, etc.) to connect the Park.	1/24/2020 2:25 PM
537	IT WILL MAKE THE TRAFFIC WORSE, LEAVE IT ALONE.	1/24/2020 2:22 PM
538	One ways seem to be hard on businesses in downtown and I've always disliked driving in Spokane for that specific reason	1/24/2020 2:07 PM
539	It seems silly to do all that and make one way streets for such a short area.	1/24/2020 2:06 PM
540	I use Jadwin going north almost daily.	1/24/2020 2:00 PM
541	I support the One-Way Couplet. Many towns I lived in and where I grew up have a similar road system that works well.	1/24/2020 1:59 PM
542	1. The downtown area has little parking. If you expect an increase in shopping, where is the increased area for parking? I don't see many people walking or biking from November to March. 2. Richland is not a major city and GW Way is the only main street. Currently, to access schools and the Hanford project there are 3 roads that are used GW Way Stevens/Jadwin and the Bi-pass. Your changes will reduce the roads available and create more congestion. You've created enough congestion through the addition of more lights on the bi-pass and GW Way. 3. Will these changes impact emergency response time? It looks like it to me. 4. I've lived in Richland since 1948 and the condition of the buildings in the downtown area have been improved very little in the last 60 years. It may be a historic area , but it is kind of an eyesore. What makes you think changes to GW Way will make anyone stop to impulse shop in that area that looks like that? 5. There are numerous vacant stores in the Tri-Cities. What makes you think the ones at the Hilton and the apartments under construction on GW Way will be occupied?	1/24/2020 1:58 PM
543	I don't feel as though one way streets will aid in traffic or ease of travel.	1/24/2020 1:54 PM
544	After living here 64 years, I fail to see any need in altering the present system.	1/24/2020 1:53 PM
545	Automobile traffic is impeded	1/24/2020 1:45 PM
546	I do NOT feel this is a good solution. The parking is already bad on The Parkway.	1/24/2020 1:44 PM
547	There are other routes for Bicycle Traffic and the city has already provided wide sidewalks in the area studied. Traffic Flow is important: obstructed traffic will cause people to avoid the area. If business wants partons access and parking must be improved.	1/24/2020 1:29 PM

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548	Bad for business, also ineffective. Maybe don't put high density apartments on such a busy road	1/24/2020 1:13 PM
549	No changes. The dual objectives are inherently false.	1/24/2020 1:11 PM
550	The one-way option will make it more difficult for customers in motor vehicles to access downtown businesses. It also will encourage more speeding by motor vehicles on GWW and Jadwin.	1/24/2020 12:58 PM
551	The couplet option does not connect the Parkway to Howard Amon park, and pedestrians will still have to cross a busy street to access these places.	1/24/2020 12:40 PM
552	Traffic will flow through the surrounding community putting pedestrians and property at risk	1/24/2020 12:36 PM
553	It feels like that is the best solution for commuters	1/24/2020 12:32 PM
554	The sidewalks and signal/light are adequate enough for the amount of foot traffic in our area. Bicyclist have plenty of local road and a riverfront path to safely ride through out the city with out being on a major collector road. Restricting road as they have between Van Giesen street and Williams Blvd (in my opinion) have negative affects for public access to the Uptown area. I avoid Jadwin in the Northbound lanes because of the lane restrictions with the re-stripping of the roadway.	1/24/2020 12:29 PM
555	I don't agree that this would solve the problem of eliminating congestion in downtown Richland, only making this path out of the city less convenient. Also this would require building more roads meaning the demolition of businesses/homes which I don't support.	1/24/2020 12:23 PM
556	n/a	1/24/2020 12:18 PM
557	The Couplet option doesn't address the problem of connecting parkway to the park since G-Way will still have a high volume of high speed traffic	1/24/2020 12:10 PM
558	Confusion	1/24/2020 11:47 AM
559	We don't have the population, visitors or workers in the area to look into creating a walkable area. I come from a large city that has a main walkway and there are thousands of workers within a 3 min walk to the area and we just don't have that here. Plus the money the City will spend to buy the land required and displace many residents isn't the way to go.	1/24/2020 11:36 AM
560	Bottlenecking where the streets change back to 2 way. Confusion and accidents becasue of people going the wrong way. Loss of access to local businesses.	1/24/2020 11:19 AM
561	Richland has 3 beautiful, well paved & accessible walking / bike trails to allow our citizens to access all areas of town. Between UGT, Shelter Belt Trail & Howard Amon biking/walking path all are perfect for this & getting safely to/from & around town. Tax payer dollars are better spent on addressing on Hanford traffic (vehicle) accessibility	1/24/2020 11:11 AM
562	The new traffic flow will negatively impact my business in the Parkway as well as my day-job at 1100 Jadwin. There is inadequate parking throughout the city, and modifying the lanes of travel will only have MORE negative impact on the ability to find parking in downtown Richland.	1/24/2020 11:09 AM
563	I take solely jadwin to and from work and use g way only to go to winco. Goethals I use for bike commuting. I worry about the increase of thru traffic on jadwin	1/24/2020 11:06 AM
564	a bridge to Pasco in North Richland is the ideal solution to reduce traffic load and improve safetying downtown Richland.	1/24/2020 11:02 AM
565	If there are currently 8 lanes total on GWay and Jadwin (not including the median lane), then how exactly would limiting both streets to 3 lanes apiece/6 lanes total alleviate traffic if you're taking one lane away in either direction? I would consider this option if there were at least 4 one-way lanes (plus a median lane) on each street.	1/24/2020 10:56 AM
566	The number and distance of intersecting streets.	1/24/2020 10:56 AM
567	I really don't care about bikes	1/24/2020 10:56 AM
568	This is is another one of Richland's stupid ideas. Like turning Lee into two lanes what did that accomplish. All the shopping areas they are allowing to be built with no one in the ones that are built. The stupid bike lane on GWay that no one uses because it is still too dangerous to use. Turning a part of Janwin into two lanes what did that do, nothing but confuse people. The list goes on and on of all the stupid things the Richland council has done to Richland in the past few years.	1/24/2020 10:47 AM
569	The Couplet option doesn't address the problem of connecting parkway to the park since G-Way will still have a high volume of high speed traffic.	1/24/2020 10:34 AM

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570	This has been suggested before and failed. So far the traffic changes have ruined business and has made Lee street a ghost town. These changes are not necessary and done waste the tax payers dollars.	1/24/2020 10:30 AM
571	This type of solution has statistically not worked for many other communities.	1/24/2020 10:29 AM
572	Having a business in the affected area is very concerning to me. I have a destination business where people travel to my business by car or bus from areas outside the Richland business. This will have a negative impact on both my ability to get to the office and those of my clients. We currently have horrible infrastructure in Richland and this will only add to it. I believe it will keep people away and not bring people to the Richland business district.	1/24/2020 10:17 AM
573	I feel that it cuts off the Uptown shopping center and I feel that it's more important to create a slow and safe downtown. Not a fast for commuters downtown. Let 240 design solve commuter issues. And improve public transport to get people out of their cars.	1/24/2020 10:15 AM
574	It will limit access to business and result in increased traffic on neighboring residential streets especially Thayer Dr as people try to negotiate the one way system. This will increase risks for school children and others like me living in these neighborhoods.	1/24/2020 10:14 AM
575	Leave roads as they are now too much traffic to change	1/24/2020 10:09 AM
576	I own a building on Jadwin and am not in favor of any roadway expansion.	1/24/2020 10:06 AM
577	Finding would appear to be based on what was told to find answer. If told want response to only be about pedestrian access, answer will come out that way. Bad basis provided for study.	1/24/2020 10:04 AM
578	I naturally do this but the other way, so suggest Jadwin northbound and GW Way southbound	1/24/2020 9:58 AM
579	NA	1/24/2020 9:55 AM
580	People won't want to change through three lanes of traffic to get to anything.	1/24/2020 9:48 AM
581	You are making a mess. Hire someone else to do your study.	1/24/2020 9:46 AM
582	I would support the finding if it was the only path forward, but I would prefer a road diet and improvements to the Bypass highway for commuter traffic. The one-way couplet is my second pick after the road diet.	1/24/2020 9:42 AM
583	I think that the way to deal with congestion is to get people out of cars by making other modes of transportation (walking and biking) more attractive.	1/24/2020 9:37 AM
584	One way streets cause so many accidents please god no	1/24/2020 9:36 AM
585	Less vehicles on the roadway is the way to have safer streets and more efficient transportation.	1/24/2020 9:35 AM
586	There are more than 20k people who commute to/from North Richland Hanford areas to South Richland, Kennewick, and Pasco. Traffic is terrible as it is!!!	1/24/2020 9:35 AM
587	Yes	1/24/2020 9:31 AM
588	This option just moves current traffic concerns to side streets. Confusing to non richland residents.	1/24/2020 9:26 AM
589	Accessibility to business and parks	1/24/2020 9:25 AM
590	Gway is already back up because of traffic and I believe that if you made it to a one lane road it would greatly cause more congestion	1/24/2020 9:23 AM
591	How will it improve pedestrian and bike safety? Will there be a separate bike lane added? Larger cities are participating in the street diet option and increasing public transportation. I'd love to see that.	1/24/2020 9:21 AM
592	Too much traffic volume/speed would still be on G-Way. To have our downtown reach its full potential, we need to have it feel connected to Howard Amon and the river. That requires pedestrians to walk freely between the parks and downtown with minimal traffic.	1/24/2020 9:18 AM
593	First, it will cost too much money and my property taxes are high enough. This is forcing the will of a few on the many who do not want this. Fix the Bypass and get the Hanford commuters from Kennewick and Pasco off GW Way and onto the bypass first, and see if that helps. Also, turning GW and Jadwin into one-ways will cause a huge increase of traffic onto the side streets to get where they were trying to go in the first place. Drivers don't follow the speed limits on the main drags, they aren't goi g to follow them on the side streets, where neighborhood kids are playing and riding their bikes, etc.	1/24/2020 9:11 AM
594	One-way couplets actually increase traffic because people have to double back. It also reduces	1/24/2020 9:08 AM

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safety, because both drivers and pedestrians get confused. One way travel also increases speeding. You can improve flow by allowing no left turns at some intersections.s..

595	will drive more people to cut across intended lanes - like through parking lots	1/24/2020 9:06 AM
596	Hate one way streets	1/24/2020 9:05 AM
597	I answered "yes."	1/24/2020 9:03 AM
598	One way streets make it difficult to get around. It will discourage people from coming to Richland. It will increase commute times for thousands of commuters	1/24/2020 9:02 AM
599	GWW is the main road in and out of Richland. I oppose any major changes.. lower the speed limit through this area to 25 ph while events are going on in this area... simple. Please try simple before making more of a mess to the downtown area. Lack,of parking is a major issue after renovation of downtown years ago. Another failed planning job.	1/24/2020 9:01 AM
600	Bike accessibility should be removed from the equation.	1/24/2020 8:55 AM
601	I loathe one way streets such as Seattle and Spokane have.	1/24/2020 8:47 AM
602	The one-way couplet option places commuter traffic above residents. I can't support any option that doesn't put residents first.	1/24/2020 8:47 AM
603	Please do NOT make one-way streets in downtown Richland. It is confusing, makes it hard to access businesses and is dangerous.	1/24/2020 8:41 AM
604	The Hanford commute is terrible as it is and this will make it worse.	1/24/2020 8:37 AM
605	One way option does little to improve safety of the street for pedestrians and bicyclists. Also, studies show that more lanes simply encourages the use of motorvehicles, effectively countering any flow improvement over time. I have lived in both Seattle and Spokane. One way streets there do not improve safety or traffic.	1/24/2020 8:33 AM
606	More confusion and more difficult access to various businesses.	1/24/2020 8:31 AM
607	I dont feel there is enough pedestrian and bicyclist to justify one way	1/24/2020 8:27 AM
608	Concern for business owners & operators who rely on traffic counts at peak driving times.	1/24/2020 8:26 AM
609	At prime commute time, downtown Richland traffic is horrible. Reducing lanes and creating one way streets is not going to help. The answer is more likely to be addressing the bypass to alleviate traffic is downtown. People commuting aren't looking at the town or stopping to eat and shop, they are just trying to get to their destination. Downtown would be much better if the bypass worked and was the main road for commute, that is where funding should be focused	1/24/2020 8:23 AM
610	I dont want to have to take another route out of richland. Not a good idea to change the biggest main street we have.	1/24/2020 8:22 AM
611	It will not make it safer fot pedestrians. There will still be too many lanes to cross and cars going too fast	1/24/2020 8:18 AM
612	This would hurt small businesses in Richland, will turn G-way into a relative highway, and will not make it safer for pedestrians. Please read for more - https://www.citylab.com/transportation/2013/01/case-against-one-way-streets/4549/	1/24/2020 8:09 AM
613	Getting to businesses by car and parking	1/24/2020 8:02 AM
614	There have been studies that show one streets do the opposite of what this proposal says. We have also just spent a ton of money improving G- Way and also Jadwin	1/24/2020 8:00 AM
615	This is the most expensive option. Road Diet is better!	1/24/2020 7:48 AM
616	It appears these options are focused on the Jon dam Plaza area while continuing to neglect the uptown and torbett business areas. The uptown and torbett areas have been in a decline and really need more improvement. The giant empty building next to dollar store is an eyesore. The torbett McDonald's is still empty after years. Business is currently being driven away from the uptown due to focus on the parkway.	1/24/2020 7:43 AM
617	This will make accessing businesses difficult. Currently both Jadwin and GW Way have a large flow of traffic during both morning and evening commutes. Making one way streets which will reduce the number of traffic lanes flowing in a direction will only make the traffic worse.	1/24/2020 7:38 AM
618	Businesses would greatly suffer. Location, location, location has proved right all the time	1/24/2020 7:27 AM
619	There are bigger traffic problems to solve such as the Intersection at Adams, Aaron & GW Way.	1/24/2020 7:23 AM

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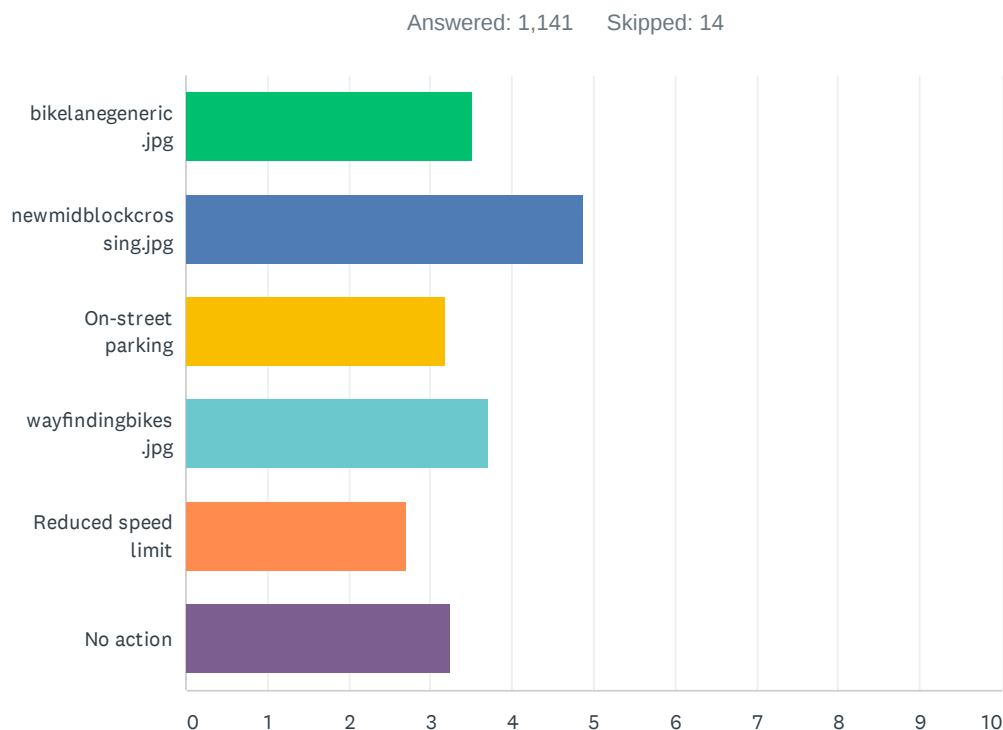
Also since I own 2 properties in Richland, I am wondering why I am not considered in projects such as this? I pay taxes to the city thus should be included in any study. I did not learn of this until the meeting is past!

620	I support the one-way coupler	1/24/2020 7:21 AM
621	Na	1/24/2020 6:57 AM
622	One ways in mid sized towns don't work well and a frustrating for drivers	1/24/2020 6:48 AM
623	The bottlenecks that will occur when transitioning back as well as ease of access	1/24/2020 6:42 AM
624	My concerns are the lack of awareness regarding those who use this to access the site and overall traffic flow. It is clear this area is trying to maintain a downtown feel but with size of the population isn't ready to accommodate becoming even larger of an area. One way streets can work but the downtown is not laid out in a way that makes this more attractive to have people visit it.	1/24/2020 6:19 AM
625	It would make traffic worse	1/24/2020 6:15 AM
626	Gway, a one way street, you will screw traffic on bypass for hanford traffic	1/24/2020 6:03 AM
627	My kids walk, bike and drive HHS when they are old enough. One way streets would make it more dangerous for pedestrians. This is a complete waste of money and time. Fix the VanGiesen/240 intersection!	1/24/2020 6:02 AM
628	Keep it the way it is.	1/24/2020 5:59 AM
629	George Washington way is already a main thoroughfare, changing to one way streets might work on George Washington way but Jadwin would not be able to support the return flow without significant changes from swift south. Additionally, we don't need to turn the tri cities into the new Seattle with one way streets.	1/24/2020 5:42 AM
630	Businesses would be harmed by inaccessibility	1/24/2020 3:48 AM
631	Traffic needs to flow. It is already too busy. This will just create more problems and cause more traffic delays due to years of construction.	1/24/2020 2:38 AM
632	It is good on jadwin and George Washington way. Jadwin should stay a w lane road and George Washington way a 4 lane road. The road works why change something that is not broken	1/24/2020 1:15 AM
633	We don't need one way streets, we do need more/better parking	1/24/2020 12:58 AM
634	My main concern is how this will effect commute traffic from PNNL and Hanford. These are main thorough-fares at both morning and evening times. If Jadwin and George Washington Way are made one way streets this will create a serious problem for commuters and those of us who live in the neighborhoods at the south end of these planned projects. We already have a problem with speeding cars trying to by pass clogged main roads. Cutting the commute option in half seems like it will encourage people to speed through the neighborhoods.	1/24/2020 12:30 AM
635	Currently there are 2 lanes of traffic each direction on both GW and Jadwin for 4 total lanes each way. Your statement says 3 lanes of traffic in each corridor (3 each direction) would be necessary for traffic flow. Going from 4 lanes directionally to 3 would not maintain nor enhance traffic flow. At the open house Pete made a statement to a lady that the difference in traffic flow between no build and couplets options was negligible. For minimum traffic flow it doesn't make fiscal sense to undertake the construction. I also am not a fan of eminent domain which is needed to procure the land for the road divergence at Williams. I also have seen no data/research/reasons/anything as to why couplets is the "best" option. It simply seems to me and probably others that people see a congestion problem and want to make a change and can't come up with anything easier. I don't know too many drivers that like one way streets and in my own experience when I drive on one way streets in other towns/cities, there is a lot of traffic (with the exception of Madras in Oregon). Aside from the traffic I also don't see how it makes it more pedestrian or bicycle friendly. There are still 2 large streets to cross (3 lanes and a turn lanes can be more daunting to cross than a 4 lane road. I also thing that making it 3 lanes 1 way would encourage high rates of speed, thus making pedestrian and bicycle safety more of a concern.	1/23/2020 11:52 PM
636	itd Be hard for a city let alone downtown area of Richland to adapt to one ways when people have a hard time with less complex things like double roundabouts	1/23/2020 11:51 PM
637	Will make it difficult to get to certain businesses in the downtown area	1/23/2020 11:44 PM
638	It may be safe for bicyclist but is it conducive to the flow of traffic that goes through downtown? I don't think so	1/23/2020 11:43 PM




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639	Richland is not a city that wants to be "walkable" or friendly to massive bicycle travel. Stop pushing this. We do not want it. Leave businesses alone to revitalize themselves. Your efforts are not helping, only making a mess. The one way street and roundabout at the parkade is a disaster. I avoid going there for that reason.	1/23/2020 11:18 PM
640	I came from a city with this layout and it was very inconvenient.	1/23/2020 11:10 PM
641	It would be much harder to get to the businesses along the streets and it would make it very confusing to drivers.	1/23/2020 11:08 PM
642	Why do you think we need better access for bicycles? You removing vehicle lanes for bike traffic that never happens. WHAT A WASTE	1/23/2020 10:58 PM
643	Until the issue of the bypass congestion is addressed, we will continue to have a heavy amount of morning and evening commuters in Richland and making any of the proposed changes to GW Way seems like it will create more headaches than your are attempting to solve. Our bicycists have an amazing riverfront trail they can use...	1/23/2020 10:58 PM
644	Moving southbound Hanford traffic to a less efficient route will not reduce congestion.	1/23/2020 10:48 PM
645	Making this small section a one way is a bad idea. George Washington way is very busy at most times of the day, especially during Hanford traffic. Creating this one way will create further traffic issues all around nearby streets, because people will be trying to find other ways around. It is fine the way it is. Safety is important, however by changing the roads (which were just redone) you would be catering to such a small population. And the majority should be taken into consideration.	1/23/2020 10:47 PM
646	Reducing lanes on either street seems like an expensive and inefficient fix	1/23/2020 7:58 PM
647	IT's already confusing enough	1/23/2020 7:40 PM
648	One way roads have significant issues and will further impact access to downtown.	1/23/2020 7:19 PM
649	I need to know more about it. Jadwin connection is currently disastrous.	1/23/2020 6:53 PM

Q7 Questions 7-11 are visual preference questions and include images of the choices within each question. The Couplet, Road Diet and George Washington Way under the Jadwin Option would each result in differing amounts of additional curb to curb road space that can repurposed for potential new downtown, pedestrian and bicycle amenities. All alternatives include the opportunity for pedestrian crossing safety features and other amenities. Please rank the importance for each of the following downtown features (you may either select your ranking numbers in the drop-down bars or click and drag to your order of importance. On mobile you can hold and drag.):

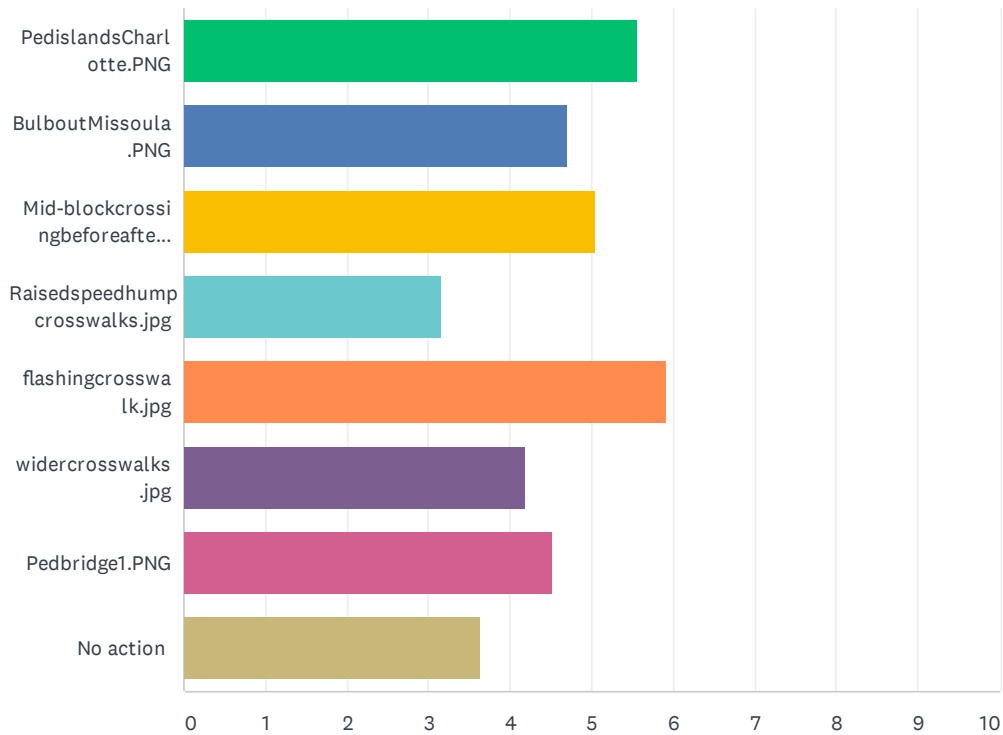









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	1	2	3	4	5	6	TOTAL	SCORE
	16.74% 180	16.84% 181	17.49% 188	17.12% 184	14.70% 158	17.12% 184	1,075	3.52
	31.97% 352	38.87% 428	17.80% 196	7.36% 81	3.36% 37	0.64% 7	1,101	4.87
On-street parking	8.03% 86	11.86% 127	18.21% 195	24.46% 262	25.58% 274	11.86% 127	1,071	3.17
	7.47% 81	19.82% 215	27.65% 300	29.31% 318	13.09% 142	2.67% 29	1,085	3.71
Reduced speed limit	7.43% 80	7.90% 85	12.36% 133	15.61% 168	33.18% 357	23.51% 253	1,076	2.70
No action	33.05% 356	5.57% 60	5.94% 64	5.11% 55	8.08% 87	42.25% 455	1,077	3.24

Q8 Please rank your preferences for crossing features that could be added with additional curb to curb space:

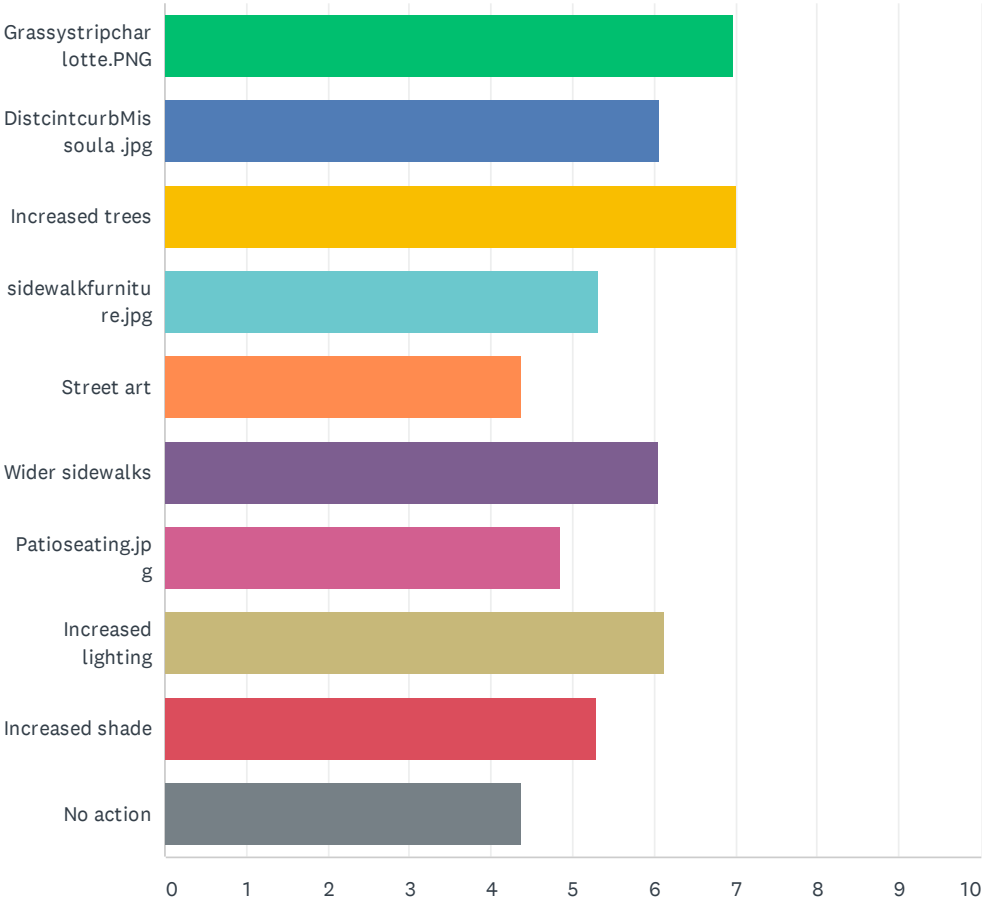
Answered: 1,134 Skipped: 21







	1	2	3	4	5	6	7	8	TOTAL	SCORE
	23.66% 238	17.89% 180	13.42% 135	14.31% 144	11.13% 112	9.54% 96	6.56% 66	3.48% 35	1,006	5.56
	5.82% 58	15.45% 154	17.15% 171	14.74% 147	18.05% 180	12.94% 129	11.33% 113	4.51% 45	997	4.70
	6.37% 65	15.98% 163	22.55% 230	18.33% 187	15.88% 162	11.47% 117	6.86% 70	2.55% 26	1,020	5.04
	2.40% 24	2.50% 25	4.50% 45	14.30% 143	13.80% 138	20.50% 205	21.50% 215	20.50% 205	1,000	3.15
	24.55% 261	22.30% 237	15.71% 167	12.32% 131	14.11% 150	5.83% 62	4.33% 46	0.85% 9	1,063	5.92
	2.72% 28	10.70% 110	13.62% 140	14.98% 154	14.30% 147	25.10% 258	14.49% 149	4.09% 42	1,028	4.19
	20.61% 215	12.37% 129	9.49% 99	6.62% 69	6.42% 67	7.96% 83	24.07% 251	12.46% 130	1,043	4.52
No action	22.78% 238	6.12% 64	4.98% 52	3.73% 39	4.21% 44	4.31% 45	7.85% 82	46.03% 481	1,045	3.65

Q9 Please rank your preferences for sidewalk features that could be expanded with additional curb to curb space:

Answered: 1,120 Skipped: 35

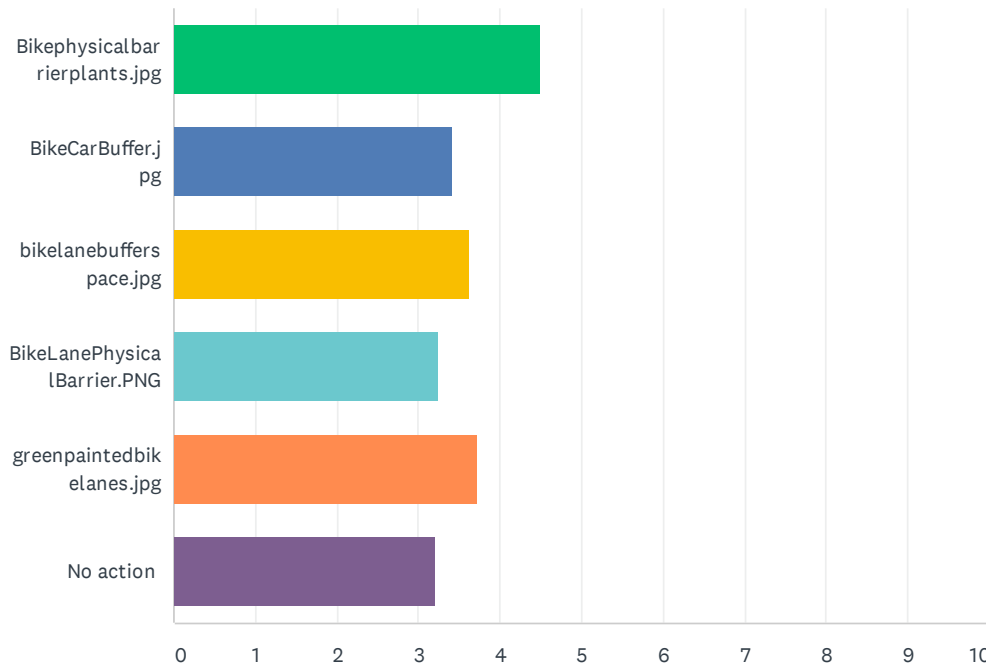







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	1	2	3	4	5	6	7	8	9	10	TOTAL	SCOI
	29.53% 285	13.68% 132	9.53% 92	7.46% 72	8.60% 83	6.84% 66	6.32% 61	6.63% 64	7.05% 68	4.35% 42	965	6
	7.78% 75	15.15% 146	13.90% 134	10.58% 102	9.85% 95	11.10% 107	11.72% 113	8.71% 84	7.88% 76	3.32% 32	964	6
Increased trees	13.66% 134	16.11% 158	19.57% 192	14.37% 141	12.74% 125	8.15% 80	5.20% 51	5.20% 51	3.57% 35	1.43% 14	981	7
	2.81% 27	7.07% 68	10.19% 98	14.14% 136	12.68% 122	13.51% 130	13.10% 126	12.89% 124	10.40% 100	3.22% 31	962	5
Street art	1.04% 10	4.68% 45	5.72% 55	7.59% 73	13.31% 128	15.07% 145	12.68% 122	13.83% 133	12.79% 123	13.31% 128	962	4
Wider sidewalks	8.48% 83	12.05% 118	12.05% 118	12.56% 123	9.81% 96	15.22% 149	12.77% 125	8.99% 88	6.13% 60	1.94% 19	979	6
	7.33% 71	5.26% 51	7.02% 68	8.26% 80	8.05% 78	9.39% 91	19.09% 185	15.17% 147	13.31% 129	7.12% 69	969	4
Increased lighting	9.90% 98	16.16% 160	11.62% 115	12.53% 124	10.00% 99	7.47% 74	7.07% 70	13.84% 137	9.80% 97	1.62% 16	990	6
Increased shade	4.01% 40	11.42% 114	11.02% 110	10.82% 108	12.53% 125	8.82% 88	8.82% 88	8.42% 84	19.24% 192	4.91% 49	998	5
No action	27.40% 283	2.52% 26	2.61% 27	2.81% 29	1.55% 16	3.19% 33	1.26% 13	2.90% 30	4.94% 51	50.82% 525	1,033	4

Q10 Please rank your preferences for bike lane features that could be expanded with additional curb to curb space:

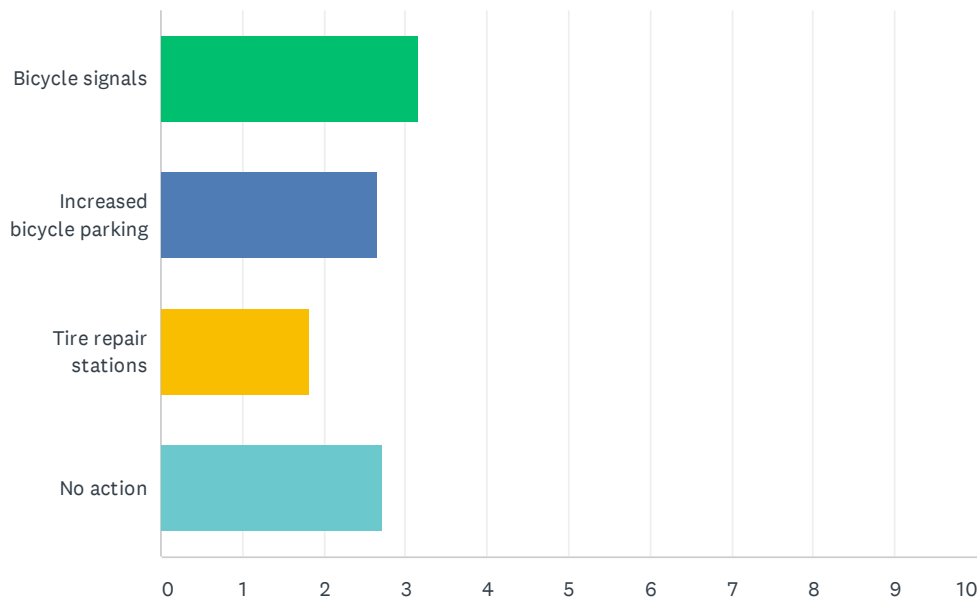
Answered: 1,096 Skipped: 59



	1	2	3	4	5	6	TOTAL	SCORE
	43.69% 398	16.47% 150	12.07% 110	10.21% 93	8.67% 79	8.89% 81	911	4.50
	6.40% 58	25.39% 230	18.10% 164	17.11% 155	20.09% 182	12.91% 117	906	3.42
	5.93% 54	16.25% 148	32.49% 296	26.13% 238	16.58% 151	2.63% 24	911	3.61
	4.56% 42	15.40% 142	19.96% 184	28.63% 264	22.23% 205	9.22% 85	922	3.24
	15.83% 149	25.82% 243	12.96% 122	12.43% 117	25.29% 238	7.65% 72	941	3.72
No action	37.61% 384	2.84% 29	3.82% 39	2.94% 30	3.82% 39	48.97% 500	1,021	3.21

Q11 Please rate the importance of the following bicycle infrastructure facilities (where 1 is the most important, 5 is the least important):

Answered: 1,070 Skipped: 85



	1	2	3	4	TOTAL	SCORE
Bicycle signals	42.91% 381	36.71% 326	14.19% 126	6.19% 55	888	3.16
Increased bicycle parking	16.15% 142	40.16% 353	35.84% 315	7.85% 69	879	2.65
Tire repair stations	3.00% 26	15.32% 133	41.59% 361	40.09% 348	868	1.81
No action	51.52% 509	6.58% 65	5.77% 57	36.13% 357	988	2.73

Q12 Do you have any other comments that you would like the City to consider?

Answered: 659 Skipped: 496

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#	RESPONSES	DATE
1	Don't continue down your anti-motorvehicle path. You have already negatively impacted downtown business with the wide sidewalks and reduced parking.	2/6/2020 10:28 PM
2	a 30 mph speed limit would be appropriate; one bike lane would be more than adequate, what is the state dot doing about 240	2/6/2020 10:09 PM
3	Questions 7-11 are constructed very badly in this survey and will lead the committee to draw inaccurate conclusions. A hard ranking 1 through n on each of these does not allow for an accurate expression of feelings or correct relative importance, e.g., suppose I wanted question 11 to reflect that I believe option 1 is highly important and options 2-4 are tied for unimportant? Yuck. Don't count these results from this survey, by the way, the survey itself puts rankings in if you click outside the question and return to it. Another problem. Consider using something other than SurveyMonkey next time.	2/6/2020 9:50 PM
4	I'm still cranky about not being able to drive all the way down Lee to Howard Amon Park	2/6/2020 9:48 PM
5	Quit with all the worry about bicycles and take care if the msjieuiry I'd yiu commuters in cars and pedestrians. Rush hour already is hard you're going to make it worse for the m as majority to please a few.	2/6/2020 9:20 PM
6	No	2/6/2020 9:16 PM
7	There still looks like there will a bottleneck where George Washington way and jadwin meet. There's been a bottleneck there for years. There needs to be another way to get through south Richland to 240 and 182. It would be nice if wellsian could be extended to 182.	2/6/2020 8:53 PM
8	This idea has not been pushed for by the actual citizens and those using the are. We are not a city that has increased bike and walking, this is something which has been proven NOT to work in cities of similar size. This is another example of the anti-downtown, anti-business decisions by this council. As with the bridge project this will be pushed through, even though there has been strong comments against the move. It is time for the city to begin LISTENING and not having its own misguided directions. As with the "Amon Watershed" which is an irrigation flume, not some natural area (which was not here before the Columbia Basin Irrigation Project, STOP listening to those pushing for something we do not need. How about we make it safe for vehicles and business and make it efficient to access and shop, not have one way in and out. Another horrible City of Richland idea.	2/6/2020 8:46 PM
9	By pass with ramps instead of lights	2/6/2020 8:42 PM
10	Nope	2/6/2020 8:39 PM
11	Please don't don't do this it will negatively impact those of us who daily commute to the north end of Richland.	2/6/2020 8:37 PM
12	Trying to make this area one big bike path is likely the worst idea of a generation. No one is going to ride a bicycle to dinner, the store, to any of the consumer locations that MAKE MONEY for the city. Quit trying to be a west side city and provide infrastructure to move vehicles.	2/6/2020 8:13 PM
13	As g-way is currently the main thoroughfare through Richland, the effect of any changes on congestion and commute time should be given high importance.	2/6/2020 8:09 PM
14	Treat the businesses that would be affected by these improvements fairly.	2/6/2020 8:03 PM
15	Better lighting in crosswalk across GW Way @ Sterlings/Police station needed. Street lights only on West side inadequate there. Thx.	2/6/2020 8:00 PM
16	I feel that you do not want people taking this survey. It was hard to find. The tric city herald article on 1-13-20 tells direct you to a cmellor website that does not mention the survey. When you go to the city of richland website, nothing about the survey is mentioned on page one. You have to search to find it. In addition the open house was not done in a format where you could speak and let others here your concerns and also hear the concerns of your neighbors. I was told council memebbers were there. I did not see them. I was greeted by people I assume were from the engineering group. Even the format of this survey does not allow easy free expression. Trying format a text response when you have a moving line of text and cannot easily read what you've already wrote makes it very cumbersome. I am so disappointed in the city of richland. I feel that you are easily led by a few with their own agendas, and really do not care about the typical taxpayer that wants a city with an easy commute to work. The bikers can use the bike path that is blocks away that has lateral access to the heart of the city, anywhere you would like to go. They would prefer we narrow the roads so that they can ride there instead. (You can ride on gway now if you choose) I do sometimes. It is the few dictating to the many,	2/6/2020 7:50 PM

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the loud voice over the quiet majority. And the city it complicit with the way they are handling the survey and public comments.

17	Please put sidewalks in residential areas.	2/6/2020 7:38 PM
18	The downtown is getting better and as things continue to improve so will the business growth. Currently the lack of parking is holding back the potential growth not reducing the speed limit or making traffic worse. Try improving the bike path we have, it's in a great location and not on the main road so it's much safer. The survey makes it seem like the city plans to waste a bunch of money on things that the community doesn't want. By the way this survey is horrible who designed this?	2/6/2020 7:29 PM
19	Put in sidewalks in richland neighborhoods. School children and pedestrians should now have to walk in street to get around a neighborhood.	2/6/2020 7:24 PM
20	Parent of kindergartener, live on Davenport, instead of biking to Howard Amon, we load bikes in car due to cars running the lights/inattentive drivers. Suggest Red Light Cameras. Please PLEASE do NOT alter/shorten yellow duration, also please look into a CITY OWNED system, instead of a leased system due to operators of leased systems being profit driven and shortening yellow times to increase revenue. Trust me, the cameras would just get vandalized. Look up what happened to the system in Aurora, CO (23% INCREASE in crashes) & Beaverton, OR (leaser shortened times inappropriately).	2/6/2020 7:21 PM
21	No	2/6/2020 7:21 PM
22	Please leave G way alone. The only idea in this whole survey that I like is adding more flashing crosswalk signals. The rest will ruin the daily driving life of people who live off of G way. How about making improvements to the bike and walking path instead.	2/6/2020 7:16 PM
23	No bike lanes. There are already bike lanes along the river.	2/6/2020 7:08 PM
24	No	2/6/2020 6:54 PM
25	This is a HORRIBLE idea. I think the construction itself is overly expensive and not absolutely necessary. The city already messed up reducing a lot of Jadwin to one lane--whose horrid idea was that? Probably the same person who thinks that Richland is going to all the sudden become hip and cool. Richland is no "waterfront" bustling city, it's town that's trying to change into a real city, with those condos that are supposed to bring people to Richland? Yeah, no.	2/6/2020 6:40 PM
26	Bud a fly over at Aaron drive so traffic doesn't suck	2/6/2020 6:33 PM
27	How long will this project take? What issues can be predicted due to construction. Will we have the resources financially to complete this project in a short time line.	2/6/2020 6:11 PM
28	Better sidewalks, work on other city beautification or repurposing projects, build another bridge to pasco, save the money for a better project	2/6/2020 5:52 PM
29	No	2/6/2020 5:50 PM
30	NA	2/6/2020 5:49 PM
31	Stop pushing to ideas that make traffic worse and cutting down on lanes of travel. Support more parking lots	2/6/2020 5:32 PM
32	Fix traffic. Fuck everything else until it's fixed.	2/6/2020 5:21 PM
33	no	2/6/2020 5:11 PM
34	Consider future maintenance of any added green spaces, public art, etc - who's responsible and financial impact. Also consider snow removal and street cleaning of streets and bike lanes - who's responsible and financial impact. Consider that bike parking features can be public art!	2/6/2020 4:49 PM
35	No	2/6/2020 4:48 PM
36	bicycles can be as much of a threat to pedestrians as cars	2/6/2020 4:42 PM
37	Thank you for your hard work, and allowing us such an easy way to input our opinions.	2/6/2020 4:24 PM
38	Making Geo way and Jadwin each a one way would help tremendously with flow of traffic. Geo way gets so narrow feeling and sketchy in some spots when there's heavy traffic.	2/6/2020 4:11 PM
39	Have you looked at extending the project further to either vanGiesen or McMurray?	2/6/2020 4:08 PM
40	Time the lights on the bypass--make the bypass a true bypass and that will fix the G-Way traffic congestion.	2/6/2020 4:02 PM

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41	I think this plan could clutter traffic inside of town	2/6/2020 4:01 PM
42	Synchronize the traffic lights to ensure smooth traffic flow.	2/6/2020 3:53 PM
43	The primary focus should be on fixing Gway traffic, not all of these other things	2/6/2020 3:50 PM
44	Widen the existing bike path rather than create traffic issues for an already clogged roadway system due to untimed lights, reduced lanes, deletion of through streets (such as Lee Blvd between G-Way and Jadwin)	2/6/2020 3:43 PM
45	no	2/6/2020 3:39 PM
46	Cars>bikes. Trails are for bikes.	2/6/2020 3:39 PM
47	If you make swift and lee one way also we really could have a more walkable downtown community. I definitely would support this. More small business would definitely come to the area!	2/6/2020 3:38 PM
48	More walkability! Less auto-centric.	2/6/2020 3:27 PM
49	Please consider Hanford traffic to reduce congestion. Additionally, if there were an accident how will this impact traffic flow.	2/6/2020 3:19 PM
50	Look into public transportation options other than busses that can take the commuters up and down George Washington Way. A tram line with stops at our local businesses could conceivably reduce traffic by a lot and make our downtown area much more walkable.	2/6/2020 2:49 PM
51	One way traffic is great in some cities; not such about Richland. Do not reduce lanes on either streets.	2/6/2020 2:47 PM
52	Use money for other city improvements.	2/6/2020 2:39 PM
53	I as a texting citizen trust that you will pray and think carefully about the decisions made to make it safer for traffic to flow through Richland thank you	2/6/2020 2:34 PM
54	The timing of the lights regarding traffic flow needs to handle that flow	2/6/2020 2:24 PM
55	No bicycle lanes on George Washington Way. If you have to have them please keep them narrow & green color.	2/6/2020 2:07 PM
56	Improvements to 240 bypass traffic lights to limit city traffic.	2/6/2020 1:47 PM
57	If the main goal is to make downtown more bike and pedestrian friendly - these things should be the focus for restructuring. Instead of restructuring the roads, make biking and walking options safer by utilizing things like the cross walk and curb additions.	2/6/2020 1:47 PM
58	Other than as noted above in the comment section, my opinion and the opinion of other longtime residents I have spoken to is that maybe you should finish the Duportail bridge the City counsel approved against the will of the residents and voters before another expensive wasteful use of resources.	2/6/2020 1:35 PM
59	no	2/6/2020 1:35 PM
60	Anything you do to reduce the flow of traffic through Richland will discourage me from spending any \$ or time in the city	2/6/2020 1:34 PM
61	Most bicycles won't use the bike lane amenities unless it was required by law. So they will be a waste of time, money, and space. Do nothing for bikes unless laws are incorporated prohibiting travel upon the roadway.	2/6/2020 1:26 PM
62	There is already a great bicycle path along the river. There is absolutely zero need to create more traffic hazards in this area. If the goal is to get more cyclists to come to downtown, then you just need more crossings, NOT reducing lanes. The only way to improve traffic flow is to reduce the number of cars during morning and evening commutes (and they aren't stopping to shop or eat anyway). The focus has to be on improving the bypass so people will actually use it instead of driving on G-way through residential neighborhoods and into downtown.	2/6/2020 1:25 PM
63	Before putting bike lanes, sidewalks should be installed along G-Washington Way. It is not in both sides all the way.	2/6/2020 1:21 PM
64	Hanford traffic already only has 3 reasonable routes through Richland. It is hard to believe that the city is even considering wasting our tax dollars on eliminating a third of the rush hour routes.	2/6/2020 1:14 PM
65	No	2/6/2020 1:06 PM

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66	These are arterial streets. As such, any project that makes them more than insignificantly slower I amnon-optimistic about.	2/6/2020 1:03 PM
67	People are able to get around the area fine as is. we only seem to have a traffic issue at work x morning and evening. I see no reason to pour a ton of money into changing George Washington way. I am definitely against a one-way Street anywhere in our cities	2/6/2020 1:02 PM
68	There are so many other projects our city could do than waste dollars on bike lanes. The by-pass highway is a mess in the mornings and in the afternoons, this is not a "need" project for our community, its a "want" project, let's fix the more pressing needs of everyone's current daily commute before deciding on building new routes for bicycles.	2/6/2020 1:00 PM
69	No	2/6/2020 12:57 PM
70	I love walking but am always scared to with the amount of traffic on gway! Anything will help!	2/6/2020 12:50 PM
71	More left turn signal lights on gway	2/6/2020 12:42 PM
72	No	2/6/2020 12:39 PM
73	I'm concerned that Cyclists will not be held accountable to the same level as drivers for obeying rules of the road.	2/6/2020 12:23 PM
74	concentrate on making pedestrian, commercial business and bike access to Howard Amon Park much easier. Work on this before spending unnecessary dollars on Jadwin and GWAY.	2/6/2020 12:16 PM
75	Improvements could be made to the downtown area that would not impact the streets. Adding seating,shade,better signage, art, etc would improve the area and make it more attractive for people to come there.	2/6/2020 12:13 PM
76	I don't believe there needs to be as big of a focus on bikes as most bike traffic can flow on the path by the river.	2/6/2020 12:06 PM
77	Please think of the whole community and not just a few squeaky bike wheels. Thank you.	2/6/2020 12:02 PM
78	The current foot path along the Richland Waterfront is becoming more and more popular for walkers and recreation. Those of us that bicycle this section regularly would appreciate a safe and effective way to avoid conflict with users along the waterfront. A safe route along G-Way would improve the safety for walkers and bicyclists alike.	2/6/2020 11:52 AM
79	Why isn't improvement of the river trail an option for the bicycle questions? Reality is that cars are the most practical option for transport in our area. Any proposal that doesn't recognize and address this is not a solution at all. The road diet and Jadwin shift plans will discourage me from patronizing Richland businesses.	2/6/2020 11:52 AM
80	Best way to re-route traffic is to make the Bypass highway a true bypass again. Make the lights green during Hanford traffic hours. Leave Geo WA Way & Jadwin alone. I've lived in Richland for 25 years & the Bypass has so many lights it is no longer a 'bypass' at all! Thanks!	2/6/2020 11:51 AM
81	More options would have been nice. The traffic from the Hanford area will be impacted negatively with these changes. This is why I wish for no change.	2/6/2020 11:49 AM
82	Downtown parking garage	2/6/2020 11:46 AM
83	Don't start catering to bike riders and bike lanes at the expense of vehicle drivers, parking, etc.	2/6/2020 11:29 AM
84	One way lanes, not the answer at all. Also, when people are trying to get home, they're not concerned with possibly stopping at stores along the way. They just want to get out of Richland to get on home, as someone who used to live in Kennewick.	2/6/2020 11:24 AM
85	How about enforcing traffic laws applicable to bicyclists such as obeying stop signs and other traffic control devices, riding no more than 2 abreast, and keeping at least one hand on the handlebars! https://apps.leg.wa.gov/RCW/default.aspx?cite=46.61.750 See also RCW 46.61.750 through 46.61.780 Then thered are bicyclists distracted by cell phone use! My wife and I both have gas powered motor scooters one doesn't have enough power to keep up with traffic on GWW, but it is illegal to use bike paths due to the engine size! And unsafe to ride inthe street. Automobiles parked at the curb present another "bottleneck" to traffic flow when parking or leaving and when driver and passengers open doors to enter or exit the vehicle. This whole study has been poorly thought out! There was also poor planning to allow high density housing in an already congested area. Finally, the Parkway is no place for restaurants etc. without considering parking. We quit patronizing some of the Parkway merchants because the owners park their own cars in front of their businesses with no concern for customers!	2/6/2020 11:09 AM
86	Visually the entire length needs to be modernized if you want to bring in new businesses and traffic. People want a community with a vibrant downtown. Right now we have rundown,	2/6/2020 11:07 AM

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	haphazard and sad	
87	With this added tourism, traffic will only get worse. The commuters that are now using GWW and Jadwin will need alternative routes to and from work. The Bypass needs to be expanded already to accomodate traffic, that is why so many people are speeding downJadwin and GWW. We need other options anyways, right now, without this added traffic to alleviate congestion, accidents, and pedestrian injuries/deaths. If we lose lanes on Jadwin and/or GWW, it would be preferable to have lanes added to Steven Drive and Thayer, or other arterials, and definitely to the ByPass Highway to provide commuters an alternative method of travel and ensure safety to pedestrians and bicyclists?	2/6/2020 11:06 AM
88	Bicyclists in Richland appear to be 90% speed commute, and 10% recreation. I have never seen more aggressive and disrespectful bicyclists than here in Richland and that's not conducive to creating a better downtown experience. Giving them more amenities and comforts downtown will serve no purpose. They simply ride to work and back home the FASTEST way possible. I RARELY see anyone riding bikes on the weekends or after traditional working hours (mon-friday, 6-6pm).	2/6/2020 11:02 AM
89	Make Uptown shopper friendly and accessible.	2/6/2020 10:54 AM
90	Please reconsider make these streets one way. It would be a hassle to people already living on those street and will only hurt the businesses as well	2/6/2020 10:53 AM
91	If you want to attarct young people you need a walkable downtown area with restaurants and bars	2/6/2020 10:50 AM
92	No	2/6/2020 10:43 AM
93	I really don't understand the need to make these changes. Having worked on GWay for over 20 years now very few people walk the streets and even fewer bike. If the city has that much money laying around maybe a programs to incentivize the updating of the current exterior of the existing buildings along Gway.	2/6/2020 10:38 AM
94	How much did the "study" cost? Does it exceed the total school cafeteria debt?	2/6/2020 10:30 AM
95	No one ways! Seattle is a failure and they have hundreds of one ways. They fail each and every time they practice any evacuation drills. Let's not imitate such a failure as them. We do need to create more bike friendly paths. Many young families would benefit from the safety that the city wants to implement.	2/6/2020 10:25 AM
96	No	2/6/2020 10:22 AM
97	No	2/6/2020 10:21 AM
98	How about improving the bike/walking path along the River? It needs to be wider and allow for walkers and bike riders. Pasco, multi lane River bike path is nice. Do we need a GWW bike path? Maybe we need West access bike lanes directing to the River path instead. I bike a lot and would choose the River bike path over GWW lanes even if they existed.	2/6/2020 10:12 AM
99	Emphasizing bike travel on G-way is a terrible idea. Make the park trails wider and increase their access up to G-Way. Then have bikes park and walk...much safer.	2/6/2020 10:12 AM
100	The city is not set up for as much pedestrian and bike traffic as these changes seem to think there is. Only during events would any of these changes be worthwhile. Half the things that are being done to "improve" Richland are limiting the growth and making it impossible for local businesses to thrive.	2/6/2020 9:58 AM
101	No	2/6/2020 9:50 AM
102	No to one streets do something more constructive with tax payers money	2/6/2020 9:46 AM
103	In the 1940's GWW was identified as a traffic concern with bumper to bumper traffic. The City had plenty of time for thoughtful street planning. Allowing development and not planning for widening streets for City growth. The bypass was to be the solution, but that didn't work as the new bridge won't solve the problem. As more and more development occures in North Richland a bigger long term solution is needed. Thus releaving traffic in the congested down town is needed. Restricting traffic in down town with fancy sidewalks will not solve the problem.	2/6/2020 9:42 AM
104	We need to concentrate on the traffic getting to and from work. Build a bridge across the river to Pasco. This will eliminate a lot of issues with too many cars on GW and 240. This town was not meant for this kind of traffic. I hate driving to work every single day. It is such a huge hassle. Too much emphasis on bicycles. They belong on the river pathways, not on GW.	2/6/2020 9:39 AM
105	No.	2/6/2020 9:34 AM

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106	Please make this efficient for once and absolutely no freaking roundabouts!	2/6/2020 9:32 AM
107	Bike lanes in the park and on Stevens Drive. Keep pedestrians out of bike path, especially in part, as in continue the bike only path from Leslie Groves through Howard Amon.	2/6/2020 9:31 AM
108	consider no action...most cost effective	2/6/2020 9:19 AM
109	Stop spending our tax money on even MORE bike paths! We have a bike path along the river!!!!	2/6/2020 9:10 AM
110	The pavement job on g-way that was done has made a hazard in the rain as it is a flat pack and cracking already	2/6/2020 9:10 AM
111	Driving is the most popular and important way of commuting in downtown Richland. The drivers need to be able to get through this area with little distrusting. The pedestrians are not currently safe crossing at crosswalks. This needs change. Do not make traffic worse just so we can have a pretty downtown seen that is used in the summer. This is a main travel area for a significant amount of people and it's the area I live in. Take drivers into larger consideration.	2/6/2020 9:07 AM
112	Keeping the current number of lanes on G-Way is by far the best option regardless of what is done on Jadwin. If you truly want to make something that works better for EVERYONE, build pedestrian overpasses. Creates construction jobs, safer for bikes/walkers, more efficient for commuters, better commuter morale (less frustration), better for environment as cars are not stopping everytime someone decides to just cross a street and not walk half a block to the end of the block to an existing crosswalk. That's my strong opinion as a 3rd generation resident of Richland.	2/6/2020 9:06 AM
113	Remember that kids also uses frequently during the summer hours is they get to and from Howard Amon Park. As a city we need to make sure to include space for kids and families on skates, longboards, skateboards, and scooters as well.	2/6/2020 9:06 AM
114	Look how Paris does it	2/6/2020 9:01 AM
115	Richland desperately needs to become more pedestrian and bicycle friendly. Moving here was like stepping into an alternate universe where people drive to travel 2 blocks. The first time I tried to ride my bike on George Washington Way I almost died. There are no real bike lanes and the sidewalks are blocked by businesses that place patio furniture or goods for rent/sale (i.e. Greenies kayaks, vintage clothing racks, etc.). The lack of investment in trees downtown is also appalling with how hot it gets in the summer. It's like the city is trying to create a Phoenix AZ type heat island by paving everything and removing large trees that used to be along the Urban Greenbelt Trail and near where the new city hall has been built. I also don't understand why at the very least, city fixtures like electrical boxes have not been allowed to be beautified by local artists like in almost all other cities. This could be done as cheaply as just hiring highschool students to paint them with spray paint.	2/6/2020 8:49 AM
116	the majority of richland commutes in vehicles or buses not on bikes. There is already a nice bike trail along the river and several less traveled streets that bicycles can use. Bicycles and pedestrians are not the majority of people that are powering the sales in retail in Richland they are a small few. In the winter it is too cold/snowing to ride a bike or walk and in the summer when it hits 90 degrees or above it's too hot so really you are talking about 6 months of the year. Both Seattle and Portland have made it so difficult to navigate to get to their downtowns that regular every day people now avoid their downtowns. All the extra benches and seating etc. also invite the homeless to come and hang out. You will run people out of business limiting car access to one way, the businesses depend on people being able to drive up pick up something and drive away. This is the majority of their business day to day. More landscaping, grass, trees etc. mean more maintenance which requires more money to maintain. Take care of what you already have and maintain the current parks so the kids can play in them. It wasn't long ago you did a study to see if neighborhood parks were actually utilized and if they should be closed to save money. Kids need outdoor places to play in downtown richland and residents need to be able to get to and from.	2/6/2020 8:48 AM
117	240 bypass highway has too many useless lights that do nothing but slow the flow of traffic.	2/6/2020 8:47 AM
118	As someone who rides a bicycle in Richland, I don't understand the push to encourage bicyclists on roads like gway when the river path is right there...	2/6/2020 8:47 AM
119	I am highly against making Jadwin a one-way road for it will take a tremendous amount of business away from the current businesses located along Geo Way and it will turn Jadwin into a daily traffic jam from 4 pm to 6 pm. There are very few business on Jadwin that would benefit from doing this. Creating 2 one way streets Geo Way and Jadwin) only creates a another problem in the downtown area. Keep them both two way streets with better turn lanes, better/more cross walks and add a couple of bike lanes.	2/6/2020 8:39 AM

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120	n/a	2/6/2020 8:29 AM
121	None	2/6/2020 8:27 AM
122	Why would you put bicycle lanes on the busiest street in the city when there are bicycle lanes one block away along the river.	2/6/2020 8:20 AM
123	Consider having a new alternative route for Hanford or making the Bypass safer!	2/6/2020 8:15 AM
124	More resturants in the city.	2/6/2020 8:11 AM
125	The Jadwin Alternative Option appears to be the most amicable solution please consider this before one way solution.	2/6/2020 8:07 AM
126	a couple of parking structures along the route would be beneficial.	2/6/2020 8:06 AM
127	Finding Parking is a big issue for my family	2/6/2020 7:51 AM
128	This is the age of the vehicle. Stop taking away the driving lanes. And thank you for taking away my turning lane onto GWay. Its made it 10 times more difficult and dangerous to turn into GWay! Not Happy! Not happy with most of the current traffic changes that have recently been made and not happy with proposed changes.	2/6/2020 7:42 AM
129	Thank you for going through this process!! Richland is an amazing city and deserves this "makeover". I remember when Division went one-way in Spokane. They said it would never work - and it does!! This is a great idea!	2/6/2020 7:36 AM
130	Limit the amount of Hanford traffic through town.	2/6/2020 7:34 AM
131	Address methods of limiting the number of east-west arterials that cross the north-south traffic flow. Improve light timing to reduce traffic backup.	2/6/2020 7:23 AM
132	Pedestrian and bike safety should be prioritized over moving vehicles back and forth through downtown. Please ensure that whatever is chosen improves access from downtown to the river. Thanks for asking for opinions!	2/6/2020 7:17 AM
133	The bypass is where the commuter traffic needs to be. Stops are not helping encourage people to use it.	2/6/2020 7:16 AM
134	Stop trying to spend money just to spend money. Roundabouts don't work. One ways will kill Richland economy.	2/6/2020 7:11 AM
135	-	2/6/2020 7:10 AM
136	I do not support encouraging increased bike travel. After living in Seattle for 6 years I have seen how dangerous adding too many of the features pictured in your survey can be and it all starts with the darn cyclists.	2/6/2020 7:07 AM
137	Please allow cyclists to use the sidewalk when needed legally. There are more cars on the road than pedestrians on the sidewalk. Less chance of an accident.	2/6/2020 7:04 AM
138	Improving the bypass highway traffic flow to alleviate the downtown pressure of Hanford commuters "Cutting" through town	2/6/2020 7:04 AM
139	There are other alternatives not listed here that can direct/redirect traffic from GW and Jadwin they should be considered with more weight.	2/6/2020 7:00 AM
140	No	2/6/2020 6:57 AM
141	No	2/6/2020 6:48 AM
142	Widening the road on certain parts of Geo Way, such as right around the entrance to Howard Amon, and absolution to the traffic issues during rush hour.	2/6/2020 6:23 AM
143	No	2/6/2020 6:18 AM
144	In the planning please consider options in the future for businesses to make a community gathering. We need this a hub... not a pass through.	2/6/2020 6:11 AM
145	Bikes are a difficult and dangerous to be on the same street with cars. They travel at different speeds and do not pay taxes to maintain road ways	2/6/2020 6:02 AM
146	A parking structure near downtown may help to alleviate parking issues as business begins to develop. It seems like without action for parking near businesses they are poised for failure in the newer parts of downtown Richland (e.g. Dupus boomers)	2/6/2020 5:51 AM
147	No	2/6/2020 5:27 AM

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148	I did not rank the last few questions because I think the City of Richland is doing an awesome job already. I used to live in the central part is Richland but moved to west Pasco years ago. I cycle a lot into Richland so it's important for me to have bike lanes. I think the "pit" looks awesome and it was a smart move to build living quarters instead of the market. You guys are doing an awesome job! The downtown are looks terrific!!	2/6/2020 5:08 AM
149	Bikes sharing the road is dangerous. They do not follow the rules of the road so I never know what they're about to do. I don't want them in the road. However if they insist, they NEED to follow act like a car and stop and stop signs, stop at red lights, not weave all over the place, stay in their lane, and release drivers they their best but can't always see them so they the bicycles needs to cautious. I don't like when the bike line in the street is so close to the car lane either. It's uncomfortable being so close to a person when I'mgoing fast in a huge metal box.	2/6/2020 5:07 AM
150	It is ridiculous to limit or reduce the lanes on GWW. The Cuty needs to focus on improving the commute. Building pedestrian bridges and increasing parking — the City has allowed a huge increase in development with no eye for parking	2/6/2020 5:07 AM
151	No	2/6/2020 4:29 AM
152	No	2/6/2020 4:26 AM
153	The city needs to spend less money on bicyclists. Focus on increasing the flow of automobile traffic to reduce commute times and make it easier to get to local businesses.	2/6/2020 3:23 AM
154	Remove lights from bypass, or make right turn only during heavy traffic times	2/6/2020 2:36 AM
155	no	2/6/2020 2:26 AM
156	Why all the push for bikes not a big fan of all this stuff you are pushing for with bikes seems as if you made up your mind for how this would be	2/6/2020 1:53 AM
157	do not try and make the city a no car zone, bicycles are not being used as there are none to be seen, bicycles are dangerous. Do not reduce the car capacity you will regret it. Do not make Richland into Seattle.	2/6/2020 1:45 AM
158	How does this effect my taxes	2/6/2020 1:06 AM
159	I think the streets should be left as is.	2/6/2020 12:59 AM
160	One factor i find to be extremely important is the fact that not everyone can bicycle to work. I personally believe that making Richland more bicycle friendly and less car friendly will be an absolute failure in practical application.	2/6/2020 12:31 AM
161	No	2/6/2020 12:07 AM
162	Survey is heavy on bicyclists/pedestrian and left out commuter concerns.	2/5/2020 11:53 PM
163	Making G-Way and Jadwin one way streets would be terrible for our infrastructure. Do not make any of the proposed changes. We already have bike paths and lanes on the roads that very few people currently use.	2/5/2020 11:40 PM
164	As a commuter from Pasco through Richland, the Bypass really needs to be made more smooth flowing if any of these proposals are enacted.	2/5/2020 11:37 PM
165	Improving the "beach" along the Columbia banks at park sites.	2/5/2020 11:35 PM
166	Pull your heads out of your ass and listen to the people and not what makes you money.	2/5/2020 11:30 PM
167	No	2/5/2020 11:27 PM
168	No	2/5/2020 11:23 PM
169	One way on gway is not comprehensible	2/5/2020 11:05 PM
170	No	2/5/2020 10:57 PM
171	Leave downtown alone! Remove signals from 240 & make it a true bypass again! Add extra lanes to 240!	2/5/2020 10:56 PM
172	Downtown needs to be accessible and beautiful for people to come. Right now I nearly get hit daily, and use my horn as often as a new Yorker. I love to cycle and would love to safely begin cycling with my son.	2/5/2020 10:44 PM
173	Improve flow of VEHICLE traffic! I don't care about pedestrian or cyclist traffic, we have a serious flow of vehicle traffic problem!!!	2/5/2020 10:43 PM
174	Listen to the people who are effected by these changes. Not what works best for the few, but	2/5/2020 10:39 PM

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	instead, the many	
175	I really don't like the plan to build a road to Guyer avenue through the low income apartments in that area. Housing prices are already a problem and destroying low income housing will only make that problem worse.	2/5/2020 10:38 PM
176	Reduce the number of traffic lights between Columbia Point and Lee Blvd.	2/5/2020 10:33 PM
177	Make the investments now in a walkable, pedestrian-friendly city. That's what creates a sense of pride and community. With that kind of investment, Richland itself becomes the destination, rather than just a specific store, restaurant, or park.	2/5/2020 10:27 PM
178	Cyclists seem to not pay any road, Texas. Why are we catering to them?	2/5/2020 10:27 PM
179	We live in south Richland, but often travel to north Richland for medical appointments, shopping at the Uptown, restaurants, Barracuda coffee, and sometimes just to drive around checking out the area. However, we avoid traveling to north Richland in the early morning or after 3:30-4:00pm because the traffic is so bad. While it's important that our city is attractive, it's more important to address the traffic congestion, especially where George Washington meets up with 240 headed out of Richland. We aren't Seattle and don't need to become Seattle. The attractiveness of the Tri-Cities is the feeling of a somewhat small-town community, and we shouldn't turn it into another Seattle or Portland.	2/5/2020 10:25 PM
180	The city has other projects they need to focus on. This is not one that needs attention.	2/5/2020 10:24 PM
181	As a resident of apartments on George Washington Way having more foot traffic I feel that it would increase the crime rate worse than it is now . I also think the traffic one way would make it harder for the people that live on the George Washington Way to get to and from work . Traffic tends to be horrible at about 2:30pm to about 6:30 pm maybe look into other options to help traffic flow instead of constricting it more.	2/5/2020 10:22 PM
182	The true answer to deal with GGWay traffic is to redu the bypass to be a real freeway without stops	2/5/2020 10:19 PM
183	Are property owners in the down town area a major force pushing this to increase the values of their properties?	2/5/2020 10:17 PM
184	Quit wasting taxpayer money with stupid ideas.	2/5/2020 10:04 PM
185	I drive George Washington Way every day. I never see cyclists. Maybe the purpose of these changes is to make Richland more bicycle friendly, I recommend waiting until people actually cycle more before investing in these changes for a what if/maybe situation that is not currently part of Richland's culture. If these changes are made I will be avoiding Richland like the plague until I can move out of the Tri-Cities. The city government is so poorly run.	2/5/2020 10:02 PM
186	Stop trying to find ways to raise taxes!!!	2/5/2020 10:01 PM
187	Create a river walk. Like San Antonio.	2/5/2020 9:59 PM
188	Slowing traffic as a first step to see how that would work seems like a good first step rather than jumping in to major roadway and traffic flow changes.	2/5/2020 9:52 PM
189	The only thing I think that should be done is more parking for the events held at John Damn Plaza.	2/5/2020 9:51 PM
190	Please, 6No more roundabouts or one way streets. Please build a bridge from Richland (Hanford, Pnnl and WSU area) to West Pasco to help relieve traffic at rush hour.	2/5/2020 9:48 PM
191	Traffic already gets backed up on George Washington way, please don't make it worse with construction.	2/5/2020 9:46 PM
192	Seriously consider getting county to fund anything that needs to be done with Franklin county because city residents already paid for a bridge we didn't want and now this will greatly impact residents while the benefits are given to kennewick or Pasco residents	2/5/2020 9:43 PM
193	I have seen bike parks at other cities that are highly utilized by kids. I think such a bike park would get a TON of use. Picture a tarred path multi-circuit racetrack on mounded terrain. It gets lots of kids out in scooters, bikes, rollerblades, and skateboards. My kids loved it! I could picture one along some of the undeveloped land near the volleyball courts, or closer to the rest area down by the parking lot on River Road (which is way too big and very much underutilized when I walk/bike by every day. One other thing: is it possible to give more weight to the opinions of those living NEAR downtown than those people solely commuting through that area? Walking along George Washington Way is taking your life into your own hands. The sidewalks are pathetically small with the traffic just a distraction away from crushing pedestrians. I think there is a lot of acclaim for one of the TriCities to make this step towards "modernization". I think it	2/5/2020 9:40 PM

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wod fit the image of the new marketing video that was recently produced, which I think was fantastic.

194	Jadwin and GW Way aren't the problem. Need to repair the run down buildings so it doesn't look like an eye sore. Fix the Bypass highway and less people will drive on Jadwin/GW Way, removing the need for any of these changes downtown. Another problem is all the events that completely shut down the roads such as the car show at Uptown and the farmer's market. If streets get changed to one-way, it will be impossible to get ANYWHERE during those events.	2/5/2020 9:37 PM
195	Make traffic the number one priority followed by more parking which is limiting & hurting businesses. Not bikes or pedestrians.	2/5/2020 9:31 PM
196	Bikes aren't as important as they're treating them.	2/5/2020 9:28 PM
197	Na	2/5/2020 9:25 PM
198	There is too much traffic and oneway streets will make it worse. I like what we have now. It's not broken.	2/5/2020 9:25 PM
199	Parking!! Especially the parkade!!!	2/5/2020 9:22 PM
200	a. the reduction in traffic on GWW or Jadwin will be a negative to keeping the businesses in the GWW corridor alive. b. there need to be easier connections from outside the corridor into the downtown; paths for waling or biking that are across the traffic flow. c. We are not yet ready as a community to set-aside our vehicles and opt for bike or walk modes. I don't know how you encourage this. But your plan only addresses the infrastructure and not the motivation of users.	2/5/2020 9:20 PM
201	No.	2/5/2020 9:19 PM
202	Go back to the drawing board. Of the major revisions suggested, none of them appear to be more than barely adequate for the current traffic demands, let alone the future. Some are worse than existing, and the "road diet" would be an immediate and colossal disaster.	2/5/2020 9:17 PM
203	no one way streets	2/5/2020 9:17 PM
204	Think of the residents first before the businesses	2/5/2020 9:16 PM
205	I would just hope in all of this that historical buildings are preserved and left alone. One thing that brought me to Richland was the history the Alphabet houses and the historical significance that Richland has.	2/5/2020 9:15 PM
206	No	2/5/2020 9:12 PM
207	Encourage Kennewick & Pasco & South Richland commuters to use the By-Pass & Queensgate Bridge rather than GWay. Encourage major employers stagger their employee's shifts times for better traffic flow.	2/5/2020 9:11 PM
208	Put in the North Richland Bridge already. The entirety of Pasco residents wouldn't even be on Geo-Way, Jadwin, or the Bypass anymore. That would make Geo-Way safer, Jadwin safer, AND the Bypass safer. The answer has been there since the 2010 BFCG study. Do that, first, the. Revisit radically changing downtown Richland for art and bicycles instead of solving the real problems.	2/5/2020 9:11 PM
209	Just don't	2/5/2020 9:10 PM
210	Use the federal building parking lot near the new town hall as the convenience parking for exploring downtown richland on foot. Use a bridge to get across a now busy Jason into the central park and to the parkway	2/5/2020 9:07 PM
211	Traffic flow and parking will bring/keep people wanting to come to Richland for activities. Unfortunately due to distance this is not a walking friendly or bike friendly town. Bikes should not be a priority in this plan.	2/5/2020 9:07 PM
212	Not really	2/5/2020 9:06 PM
213	Have a better view of the Flow of the traffic, pedestrian, cyclist etc. Once everyone has their opinion and plan for a 50 yr or 100 yr idea. Not just to solve a problem for the next 10 yrs, our cities are growing fast. I feel like engineers don't plan for a long term. Look at road 68, it is a mess and in my opinion whoever designed those roads, did a poor job!	2/5/2020 9:06 PM
214	I want any improvements to benefit people who use downtown. I'm not interested in making it easier for people to speed through town. George Washington Way is my neighborhood, not a highway.	2/5/2020 9:04 PM
215	No	2/5/2020 9:02 PM

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216	Better lighting	2/5/2020 9:02 PM
217	Please leave the roads as they are. A one way combined street will be one of the bad ideas next to Trump in office.	2/5/2020 9:01 PM
218	Please don't do this. My hometown of Eugene, OR is ripping out their blocked-off downtown because the businesses died when they became boxed in by pedestrian areas and distant parking. This isn't NYC where parking is premium and walking is essential. As America gets fatter and increases its drive thru mentality, cute walkable cities that cut off major thoroughfares in favor of cute walking areas is not workable.	2/5/2020 8:59 PM
219	There a much greater traffic concerns caused by cars and their numbers than the effort and money being looked at for bikes and foot traffic. Bikes and pedestrians have the benefit of the river rail that runs almost parallel to g way and provides and safe route for both.	2/5/2020 8:59 PM
220	No	2/5/2020 8:56 PM
221	I strongly oppose any plans to alter the current traffic pattern. I have heard no request for these changes from my fellow citizens with whom I associate. This is an ill conceived idea that applies a bad solution to a non-problem.	2/5/2020 8:56 PM
222	NA	2/5/2020 8:54 PM
223	Motorcycle parking and charging station for cars	2/5/2020 8:54 PM
224	There are more houses and people, but the roads can't accommodate it. One way streets aren't the way to go.	2/5/2020 8:53 PM
225	I think the change should go to Van Giesen which means no new streets to be built for the split in directions	2/5/2020 8:51 PM
226	Increased police foot patrols during peak periods.	2/5/2020 8:50 PM
227	No	2/5/2020 8:48 PM
228	We have so much recreational space and event space crammed into a limited section of town. Spread out a bit. I realize the apeal of the riverfront but the city could encourage more activities near Uptown. Farmer's Market on Fridays is a nightmare. Is that the best location we could come up with!	2/5/2020 8:47 PM
229	Couplet. Great idea!	2/5/2020 8:47 PM
230	we don't need any of this crap! quit waiting money and focus on real issues	2/5/2020 8:46 PM
231	No	2/5/2020 8:43 PM
232	The parks used to be clean and safe. Now they are getting trashed by people doing illegal acts.	2/5/2020 8:43 PM
233	Make it to difficult to drive thru town and business will suffer	2/5/2020 8:40 PM
234	No	2/5/2020 8:40 PM
235	Our residential areas aren't close to downtown. There is nothing charming or quaint about downtown Richland.	2/5/2020 8:40 PM
236	No	2/5/2020 8:40 PM
237	Having fewer lanes or adding curb blobs, raises sidewalks etx. Is NOT going to improve traffic it will only cause a bigger bottleneck.	2/5/2020 8:38 PM
238	N/a	2/5/2020 8:37 PM
239	We must remove traffic as an obstacle between the parkway and the river.	2/5/2020 8:36 PM
240	Not allowing bicycles	2/5/2020 8:27 PM
241	It really doesn't matter what the people want you do what you want just like the bridge	2/5/2020 8:27 PM
242	No	2/5/2020 8:26 PM
243	no	2/5/2020 8:25 PM
244	Better police presence	2/5/2020 8:20 PM
245	Increasing the bicycle-friendliness is not the primary traffic issue. The Hanford commuters don't bike because it is too far. Traffic could be reduced by encouraging Hanford to allow employees to work in town or at home. Several hundred commuters really only need a computer. That computer does not have to be on site. Offices could also be located in Kennewick and Pasco.	2/5/2020 8:19 PM

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246	There is already a juke path on the bipass, Jadwin and along the River. There are plenty of options for bikers to be safe commuting	2/5/2020 8:19 PM
247	That the development of the downtown area needs more parking and driving lanes, not bike lanes, pretty landscaping. Your priorities for the city are way off.	2/5/2020 8:19 PM
248	I do not.	2/5/2020 8:19 PM
249	I think that the city of Richland really needs to consider building a bridge to pasco near Leslie groves to improve Hanford traffic	2/5/2020 8:18 PM
250	No	2/5/2020 8:16 PM
251	more roundabouts	2/5/2020 8:12 PM
252	That fire station downtown needs to move. It is in a prime commercial location with direct connection to the park systems.	2/5/2020 8:08 PM
253	Without MAJOR roadway additions, the traffic problems will not be "cured".	2/5/2020 8:00 PM
254	waterfountains for drinking water should also be considered	2/5/2020 7:13 PM
255	Quit focusing on trying to make Richland only for tourists and bike & recreation folks. As a longtime born Richlander, the amenities and features that use to be enjoyable have been commercialized and "California-ized". Stop and let Richland be the unique town it use to be. Return Lee,Stevens, Swift and Jadwin back to their designed lane configurations to get the traffic flowing again. And get rid of the extremely dangerous round-a-bout love-fest.	2/5/2020 7:05 PM
256	Construct pedestrian and walking overpasses utilizing over the traffic over the top of g.way and jadwin to howard amon park(las vegas	2/5/2020 7:00 PM
257	Don't do it!	2/5/2020 6:49 PM
258	I feel Richland is a commuter city. These projects would cost a lot of money and not sure if it would be utilized in a manner that warrants the costs.	2/5/2020 6:27 PM
259	You are doing a great job	2/5/2020 6:02 PM
260	Only claims of improvement were made, without regarding or addressing deterioration of this topic.	2/5/2020 5:57 PM
261	Last summer during roadwork the traffic became borderline unbearable. Please perhaps focus on resolving or diminishing Hanford traffic (alternate route?) before considering further delays with roadwork next summer.	2/5/2020 5:39 PM
262	No	2/5/2020 4:14 PM
263	no	2/5/2020 4:01 PM
264	Make the road lines distinctly different when approaching a crosswalk, like how they do in the UK. It's a cheap, effective way to catch drivers attention.	2/5/2020 3:29 PM
265	landscaped pedesetrain bridges would be helpful at Geo Way and Lee and Lee and Jadwin	2/5/2020 3:26 PM
266	I am sure that people will be more concerned about how long their commute home will be rather than if they can bike downtown. I think the pedestrian improvements are most important, especially adding trees and outdoor seating areas to make the area more appealing. I do not know many people that care about being able to bike downtown, I personally would rather have it be more walkable.	2/5/2020 3:23 PM
267	I think the One way option is a fantastic solution to part of the Gway problem	2/5/2020 3:18 PM
268	Clean the existing bike paths. It's not a bike path if it's full of road debris.	2/5/2020 3:14 PM
269	Would prefer more lanes/streets	2/5/2020 1:57 PM
270	By discounting road diet you've failed before you've started.	2/5/2020 1:39 PM
271	The only thing that would really benefit this area would be adding more trees and timing the lights.	2/5/2020 1:12 PM
272	Putting tax payer art around the city, especially in round-a-bouts, is a bad idea. Please Stop. Art next to road ways distracts drivers. As a city we should promote safety while being cost conscious, not adding distractions. As someone who is born and raised in Richland, thinks it is a beautiful city and am glad to raise my kids here, please stop wasting my tax dollars on your version "art". Plant shade trees and grass, move side walks away from the main roads so they	2/5/2020 11:52 AM

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actually get used because they are safer, re-pave our awesome park trails. Also bike lanes in our down town won't get used. I ride my road bike all over. There are about a dozen PNNL workers who ride their bikes to work. Just because road bikers are lazy and wont ride on sidewalks doesn't mean we have to cater to them/us. We have an awesome park system. The PNNL workers can use the bike paths we all ready have.

273	Encouraging this bicycle traffic significantly increases safety issues	2/5/2020 10:24 AM
274	PLEASE KEEP COSTS DOWN. TOO MANY TAXES.	2/5/2020 10:03 AM
275	stop wasting money	2/5/2020 7:15 AM
276	Build this space for people, not cars.	2/5/2020 5:07 AM
277	A family style restroom near shopping, nothing big enough for homeless to lay down to sleep on, a mister for hot days.	2/4/2020 10:48 PM
278	Adding bicycle routes through this small section does not increase bike friendliness, you want to bring people from outside the area to the "downtown"	2/4/2020 5:20 PM
279	Splitting Jadwin into a non-continuous street would cause more confusion and difficulty giving directions. If this does happen the road should be renamed.	2/4/2020 4:18 PM
280	Richland has many advantages for cycling, and it could be even better. Electric personal conveyance is becoming downright cheap now, too, and will only appear more often as people experiment with efficient ways to get around.	2/4/2020 3:52 PM
281	Lengthen the one way corridor roads on Jadwin and GW way until McMurray street on NORTH eND	2/4/2020 3:52 PM
282	Please do not make any unnecessary changes as I use the roads in question everyday to commute. Please also take into consideration the actual data of pedestrians and cyclists when choosing which features to add or reject. I trust that you will make the best informed decision possible. Thank you.	2/4/2020 1:22 PM
283	Bikes are second to cars....	2/4/2020 1:12 PM
284	Quit wasting our money on roundabouts and ugly sculptures.	2/4/2020 12:51 PM
285	Making Jadwin only one lane each way and reducing it's speed limit to 25mph through the downtown area would be a superior option to the ones presented.	2/4/2020 12:11 PM
286	No	2/4/2020 11:30 AM
287	Stop ruining our roads with busy work for office morons.	2/4/2020 11:19 AM
288	Widening the river trail and providing increased bike access on cross streets makes more sense than putting cars and bikes on gway. Motor vehicle traffic is the only realistic mechanism to get between the majority of jobs (located in North Richland) and most housing in the Tri Cities. Any plan that doesn't fully address this reality is a waste of tax payer money. If congestion is increased through any of the proposed half-measures, I will patronize Richland businesses less. The money for this activity would be better spent on closing the Swift and Airport road intersections on the bypass and investing in grade separated crossings at Duportail and Van Giesen. I know the railroad is a concern in that corridor, but the TCRY has been a poor steward of that capability anyway.	2/4/2020 10:42 AM
289	I am not sure why we are changing such a busy area to accommodate to a small handful of people who ride bikes. We have bike paths, etc. our traffic is so busy in this area, I feel reducing the access for cars to accommodate for bike paths would make it way worse. Terrible idea!	2/4/2020 10:27 AM
290	McMurray should be split into 3 lanes where it intersects with GW Way. Right, Left and forward headed east.	2/4/2020 10:16 AM
291	Repar the roads first and add more lighting at all crosswalks. Lower speed limits and mo nitor those areas...Duportail is 25mph but clearly people are speeding between Thayer and Bypass on Duportail	2/4/2020 10:11 AM
292	Stoplight timing/intersection design on G Way & Columbia point drive	2/4/2020 9:29 AM
293	Leave it alone!	2/4/2020 9:06 AM
294	Yes, think wisely before you start spending tax payer's money on something we don't really appreciate. If you cater to a small group of people expect lots of unhappy drivers and more accidents.	2/4/2020 9:05 AM

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295	Pedestrian bridges across bypass and GWWay would eliminate many accidents	2/4/2020 9:03 AM
296	Separate vehicle traffic from the other two on Jadwin (designed to optimize vehicle traffic), then design a retrofitted GW for bikes and pedestrians, prioritizing those enhancements accordingly.	2/4/2020 9:02 AM
297	Please leave the roads as is. Iowa, Montana, South Dakota have all tried this an are sorry. LEAVE as is !!	2/4/2020 7:56 AM
298	No	2/4/2020 7:34 AM
299	Please reevaluate your stance on bicycles. They should not be inconvenienced, and especially not endgangered, for the convenience of vehicles.	2/4/2020 6:22 AM
300	Road diets are the best way to improve safety, increase pedestrian traffic. Slower cars, more walkers and cyclists lead to more business at local businesses	2/3/2020 11:12 PM
301	Just please be mindful of our school zones as well. Afternoon traffic from release is insane especially on GWay. Maybe consider pedestrian bridge for kids crossing GWay?	2/3/2020 10:25 PM
302	Slow down, push WSDOT to create peak time HOV lanes and push DOE to get their workers out of SOVs. Then road diets, and speed enforcement. Make Stevens, Goethals, Jadwin south of Gillespie, Thayer, Wright local traffic only and put in speed humps. Boise and Seattle use a lot of them. Even on arterials. Active transportation should be our number one priority to ensure a healthy population. Check out AARP livable communities tools.	2/3/2020 10:08 PM
303	With all the traffic on G-Way and Jadwin, I don't think bycycle riders would feel safe...tire repair stations??? Really.	2/3/2020 7:54 PM
304	Add turn signals to turn lanes. Prefer ones that aren't flashing yellow.	2/3/2020 7:51 PM
305	Remove the lights from the bypass and make overpasses from side streets	2/3/2020 7:20 PM
306	Route bicyclers away from GW Way to bike corridor along river.	2/3/2020 6:38 PM
307	I don't think whether a person can bike downtown or not should be given more weight in the decision making. The river bike path is less than 30 second ride up to GWW. I think that works great. Movement needs to improve going East and West because there are SO many large streets you have to cross.	2/3/2020 6:15 PM
308	Block off all parking in The Parkway and make it all walkable (combination paved and landscaping) with features (art, entertainment, street vendors, farmer's market, etc.).	2/3/2020 4:39 PM
309	I'd prefer to see the roads widened to accomodate the increased traffic, with additional ways into/out of the city. If we can improve the flow through the bottle-necks getting out of Richland, the traffic through downtown will improve as well.	2/3/2020 1:51 PM
310	I walk downtown regularly and live on Hains Ave. I highly recommend that the people involved in the decision actually walk on those streets during lunchtime for example. They will find that it is NOT walkable at all right now, at least in part because of the SPEED and QUANTITY of cars going down the street. It is NOISY and SCARY because the cars come so close to the sidewalks. I don't think you can make an informed decision unless you do. Also how about trying to negotiate the walk during rush hour either in the morning and evening. I would also like the improvements to go further north on GW way to make the whole town walkable.	2/3/2020 12:28 PM
311	It would be better if you removed intersections on the bypass so there was only lights at 240, Van Giesen, and Duportail.	2/3/2020 11:59 AM
312	We need to discourage commuters who see downtown Richland as an alternative to the ByPass. Richland needs to pressure DOE to bring back the Hanford busses and stagger contractor start times.	2/3/2020 11:47 AM
313	Please do not implement one way streets.	2/3/2020 10:44 AM
314	N/A	2/3/2020 10:20 AM
315	You need to conduct objective studies of bicycle usage in Richland such as how much are the new bike lines north of Spengler on G. Way actually used. Based on what I see commuting on G. Way in the mornings and evenings, not nearly enough to actually justify sacrificing vehicle traffic flow for bicyclists. Invest more time into figuring out how to better time the lights on G. Way during peak commute times to improve vehicle traffic flow. It's bad on both G. Way and the bypass highway. Take into account the number of cars on G. Way and not just the average wait time. Just like giving too much priority to bicyclists, too much priority is given to cross-traffic at the lights on G. Way.	2/3/2020 9:55 AM
316	As a biker, I don't like bike lane buffers because it's hard to get into the road to make left turns. I	2/3/2020 8:26 AM

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think we should leave GWay as 2-way but add bike lanes, at the expense of wide sidewalks or grass by the road. Some people (including bikers) say the river path is sufficient, but it's too far away from stores when running errands (but is nice for non-stop commutes). Also, street parking on GWay is a bad idea and would make congestion worse. Where I used to live (in Livermore, CA) there was a FREE parking garage near downtown and a large dirt lot.

317	no	2/3/2020 6:19 AM
318	Add more bicycle traffic to George Washington Way is just silly. There is a beautiful bike lane all along the river that everyone that rides north uses instead. Those who ride their bikes to work don't even use the new one at the north end of GWW. If you want less traffic through downtown Richland then return the By-Pass to what it was intended for - To ByPass Richland! This new configuration will just make me less likely to visit Richland businesses.	2/3/2020 6:14 AM
319	Spend our tax \$ more wisely!!!!	2/2/2020 8:54 PM
320	Its nice to have those beautiful things, but they come at great cost to those who live here, and have need to get to other places. You want more parking places? Why dont you turn over the old city hall land over to a new parking lot! Now that would be way more efficient than parking cars up and down GWW. Please dont do that... but you will do what you want anyway whether the people like it or not....	2/2/2020 5:54 PM
321	If you can get funding to manage even 10% of this stuff that'd be great. Good luck though!	2/2/2020 1:52 PM
322	Yes a bridge in north Richland to Pasco. Which would relieve mast traffic on the bypass and GWay	2/2/2020 10:11 AM
323	As a pedestrian I find walking along GW to be incredibly unsafe. Drivers here are terrible at seeing me, especially when they are turning. In order to make the city more pedestrian friendly we need something that will get distracted or tunnel vision drivers to actually be aware of those around them.	2/2/2020 9:21 AM
324	All of the proposals are band-aid, costly, and do not provide significant relief for traffic. North Richland is what it is and lipstick won't make the pig look any better. You continue to make the area worse by allowing additional high occupancy housing in the area then propose "fixes" like this. Shame on you!!!	2/2/2020 9:06 AM
325	Please do not make changes that will increase the difficulty of driving around within Richland. Both Swift and Jadwin have become more difficult to navigate with current changes. I hate to see things get even more restrictive on Jadwin and George Washington Way. Yes, Bike lanes are great, but aren't there other options than having the bikes routed to these streets for the main part of the north-south transit? Since Kadlec's expansion has eliminated Geothals as a thru street, couldn't increased bicycle lanes be added there on a street that already has a lower speed limit and less traffic? We also have the bike path that runs the entire length of Richland and streets such as Davison, Hoxie and Hunt that are good for bicycles. I choose such streets when I ride downtown and stay off the main streets as much as possible. This is not simply because of the lack of bike lanes downtown, but because some drivers don't pay attention. I'm glad the city is looking to improve downtown, but please don't favor "through town without stopping" commuters over those of us who have lived in North and Central Richland and been paying taxes here for years.	2/1/2020 10:03 PM
326	Retrofitting and existing design that has extremely low tourist interest is not cost effective. It will be a detriment to Richland and will cause impacts not anticipated by the committee. When there is a viable, safe bike path along the river, why is it even in the consideration for either Jadwin or George Washington Way or is the bike path being considered for another lane of car traffic. With a little widening, it could do that. The cross walks on Jadwin at Chief Joe Middle School would really impede traffic on GW Way.	2/1/2020 7:10 PM
327	barriers in streets to force pedestrians to use crosswalks	2/1/2020 7:05 PM
328	the benefits of the obstruction to traffic flow will mean LESS people coming to greater Richland not more	2/1/2020 3:04 PM
329	No	2/1/2020 2:22 PM
330	Bicycle lanes are already in place!! We are not Seattle!!	2/1/2020 12:24 PM
331	Increased electric bikes may require speed limits on shared pathways with manual bikes and pedestrians such as the riverfront levee	2/1/2020 11:56 AM
332	No	2/1/2020 11:37 AM
333	Fix the UPTOWN and stop wasting money and time on other nonsense. Uptown is a crap hole! Same with the old restaurant next to sterlings on GWay. New Police/Fire stations	1/31/2020 6:26 PM

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334	Why is it not working the way it currently is?	1/31/2020 3:13 PM
335	Please do not consider major renovations to the roadways that benefit THE FEW bicyclists on our street, as its usually negative for THE MANY vehicle commuters.	1/31/2020 2:47 PM
336	Focus on fixing the bypass instead	1/31/2020 2:25 PM
337	think about cars and hanford traffic more than bikes	1/31/2020 1:58 PM
338	the project description didn't speak to bikes, but the majority of questions are about bikes. this suggests that the bike lobby has had undue influence on this design.	1/31/2020 12:51 PM
339	Please consider just making the river walk more distinctive for bikes/pedestrians. Most people that ride their bikes do not want to be on Gway or Jadwin. They need to CROSS those streets for sure but I'll come up from the river. Freeing the extra space up for traffic efficiency would be great...like having the right lane for turning or parking only.	1/31/2020 12:45 PM
340	Bicyclists have a right to travel as they wish, but it should be at the driver's expense. We need to craft bike paths away from the main roads if anything, so that cars have the ability to not be congested driving home or to work.	1/31/2020 12:21 PM
341	Traffic light timing would improve car density downtown. Getting folks in and out quicker. I am very against adding bike lanes or narrowing streets.	1/31/2020 11:42 AM
342	Sidewalk/Patio seating gives an atmosphere we need	1/31/2020 11:37 AM
343	Good luck!	1/31/2020 11:35 AM
344	People will gripe about one way streets because they aren't used to them, but they'll get over it. Making the downtown more walkable is a good idea, but please don't cut down on the available throughput for the thousands of workers that need to get to north Richland. The commute home is already a nightmare, and sacrificing vehicle lanes for bike lanes would turn 240 into an even bigger parking lot. If richland goes that route anyways, it should at least be coupled with traffic revisions on 240 to get rid of some of the streetlights	1/31/2020 11:25 AM
345	To deter theft, create a larger, more visible bike rack at the library.	1/31/2020 11:25 AM
346	The parked car buffer for bike lanes seems like the worst option(which I think may be supported using data from Ventura Blvd in Los Angeles) because the cars cannot see the cyclists when they pop in and out of the buffer. Also, people on the right side of cars are not accustomed to checking for cyclists, so people will probably get hit by doors. I say this as a cyclist who biked in LA. Additionally, we already have a river trail. If the goal is to increase cycling, you have to put in more sturdy parking. It doesn't matter if where I bike if I can't find places to park and lock up.	1/31/2020 11:23 AM
347	The one way concept should run the full length of Jadwin or not at all. Limiting traffic or "street diet" will cause me to avoid the city center and skip Richland businesses. More focus should be on eliminating lights on the 'bypass'	1/31/2020 11:14 AM
348	leave it alone this is a solution looking for a problem	1/31/2020 10:55 AM
349	Richland currently has the worst road striping I have seen. However, the latest GWay improvements are a markedly improvement, keep it up! Also, if you make Gway a one-way street it will cause more accidents as vehicles try to swing back northbound from Jadwin to get to a destination on GWay.	1/31/2020 10:17 AM
350	I think this project should focus more on pedestrian safety and other related improvements. It seems ridiculous to me to spend money on improvements for bicycle lanes when there is already a dedicated bicycle path just a block or two away by the river.	1/31/2020 10:12 AM
351	No	1/31/2020 10:06 AM
352	The flashing light's at crosswalks have been on my mind for awhile. I never can see that people are waiting to cross until I'm too close to stop. Especially near bus stops where people are standing around but not crossing.	1/31/2020 9:38 AM
353	Using the park for bicyclist if it means cutting the traffic lanes that support thousands of cars at high peak times M-F!! The downtown area can still be walking/bicycling friendly, but honestly its not that busy down there. And the traffic has to go somewhere!	1/31/2020 9:26 AM
354	Incentivize patio seating with view of river (non-residential construction)	1/31/2020 9:24 AM
355	Remove some of the traffic lights on "bypass" highway. This would greatly reduce the traffic on GW Way.	1/31/2020 9:20 AM
356	I lived in Richland for 15 years and moved outside the Tri-Cities after being rear ended at a	1/31/2020 9:05 AM

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stoplight on the bypass. It totalled my car and destroyed my back. Please consider removing more stoplights on the bypass highway and return the merge lanes as it was much safer and didn't impede traffic flow from North of Richland. This will also draw a lot of commuter traffic out of Richland to keep the commuters from Kennewick and Pasco from impeding traffic flow in town. They don't stop to shop in Richland, they are just trying to get home.

357	Fire whatever idiot came up with this idea.	1/31/2020 8:58 AM
358	There are so few bicycles on George Washington Way that this is ridiculous. People who commute especially with kids can't ride their bike. You are ruining the city and our streets and traffic for the less than 5 bikes a day that ride through the city. It's especially ridiculous when there is a bike path running parallel to GWay that goes all the way out to North Richland. Get a clue. No one wants any of the changes you make. Take the lights off the bypass and make traffic more efficient for cars. You aren't going to force all of us to change our behavior by making things worse for cars.	1/31/2020 8:55 AM
359	We live in a hot desert. More trees and shade and green makes it bearable. Consider male ginkos for very slow growing trees by sidewalks.	1/31/2020 8:28 AM
360	Why worry about downtown pedestrians, Duportail bridge makes it easier to shop elsewhere. If people are at the parks/river are they walking through town? Crosswalks already serve The Parkway.	1/31/2020 8:26 AM
361	Remember bicycles are vehicles and bike lanes are part of the roadway. Also when building bike lanes please plan for maintenance and cleaning. After a few month the new bike lanes on Gway are turning into gravel paths and I sometimes as a bike rider I have to move into the lanes you intent for motor vehicle traffic to be safe.	1/31/2020 8:21 AM
362	NO ROAD DIET.	1/31/2020 8:20 AM
363	Time the traffic lights!!!!!!!!!!!!	1/31/2020 8:19 AM
364	Bicycle traffic on Gway should be limited since that is a great bicycle path along the river.	1/31/2020 8:19 AM
365	Rather than significantly affect the flow of vehicular traffic to accommodate bicycles, why not use the existing bike paths? Either upgrade riverfront trail to be more conducive to bicycles (and add signage directing bicycles down that way) or use Amon Park Drive for bicycles (also with signage!). I have friends that bike to work in other localities and they generally prefer having a completely separate path over sharing with cars.	1/31/2020 8:15 AM
366	Curbside parking is a waste of roadway. People are terrible at parallel parking compared to diagonal. Most businesses have ample off-street parking. Curb-side parking would make it farther to walk to businesses for most situations.	1/31/2020 8:14 AM
367	None of the suggested changes to Jadwin and GW Way will really help, in my opinion.	1/31/2020 8:00 AM
368	This is a main thoroughfare for a large number of Tri City workers to get to work. Please do not make pedestrian and bike traffic the priority over commuter traffic	1/31/2020 6:57 AM
369	I think that we should definitely plant more trees around the city. Also, I think that we should update some of the speed limits around town. For example, sometimes they will change drastically from a high speed limit to a much lower speed limit. Generally we just need some more speed limit signs to make it more clear.	1/30/2020 11:37 PM
370	Establish bicycle lanes on separate street. Do not wind them through the heaviest traffic streets. Think of safety	1/30/2020 6:52 PM
371	If jadwin and gway were to become 1 way streets, it would make it more difficult for people to reach their destination via car	1/30/2020 6:06 PM
372	What is the larger plan?	1/30/2020 4:22 PM
373	Please consider constructing an additional bridge from N Pasco to south of PNNL's campus to help alleviate the traffic during commute hours.	1/30/2020 3:25 PM
374	Please leave it alone	1/30/2020 3:09 PM
375	Could we use the bypass as an actual bypass - all through traffic should be able to route through there. But, with the traffic lights, it's not a better or faster option for thoroughfare.	1/30/2020 2:54 PM
376	no	1/30/2020 2:54 PM
377	Please build a bridge across the Columbia instead. Please.	1/30/2020 2:45 PM
378	Why so much concern with bikes? There is a consistent traffic jam beginning at 4:00p every weekday.	1/30/2020 2:26 PM

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379	Slowing through traffic will only eliminate opportunistic stops at businesses as traffic will shift to the Bypass. The one-way model should extend further North to at least Van Giesen or out to Stevens. The cost to do any of the pedestrian/bicycle improvements would be better spent in the short term on grade separated crossings on the bypass, especially at Duporting and Van Giesen.	1/30/2020 2:17 PM
380	no	1/30/2020 2:06 PM
381	I would be glad to see downtown be more bike and pedestrian friendly. Thanks for looking into it.	1/30/2020 2:04 PM
382	no	1/30/2020 2:00 PM
383	Almost any of these ideas would be some sort of improvement, however the Bypass should be "fixed" first (become a full freeway, to allow for more commuters).	1/30/2020 1:17 PM
384	Lots of questions regarding bike on G-Way and or Jadwin. We have nice bike paths along the river that should be utilized for this. I am a cyclist and use these to commute to PNNL	1/30/2020 1:11 PM
385	There is a lot of emphasis on bike lanes in this survey. Yet, the roads in question are nearly adjacent to a bike path/bike road. I periodically commute via bike and I know that biking next to cars is no fun. Why not work to make the bike path by the river more of a commuter path with increased lighting, snow removal in the winter, etc. instead of going to a lot of effort to get more people to bike right next to traffic by shifting bike lanes to two major (and very busy) roads?	1/30/2020 12:45 PM
386	no	1/30/2020 12:07 PM
387	Please do not spend taxpayer dollars to support the limited bike/pedestrian traffic in the area. Traffic is the number one issue.	1/30/2020 11:16 AM
388	Look at time of traffic lights to ensure adequate flow. PLEASE DO NOT install anymore traffic circles	1/30/2020 11:08 AM
389	Forget bikes; they have the park. Reduce traffic jams, raise the speed limit, and make the Uptown area not look like the ghetto.	1/30/2020 10:49 AM
390	I have concerns about how well the improved bicycle infrastructure interfaces outside the improvement area (i.e. dumps cyclist back onto the road).	1/30/2020 10:34 AM
391	Any option other than "status quo/leave it alone" would be a step in the wrong direction.	1/30/2020 10:27 AM
392	Commuting to North Richland, from OUTSIDE OF RICHLAND, is a bigger issue than biking. Don't spend tax payers money on decreasing lanes of traffic for commuters so the few can bike.	1/30/2020 10:22 AM
393	Bikes are my lowest priority. Reducing traffic congestion is most important to me.	1/30/2020 9:54 AM
394	Increased duration of green lights north and south on George Washington Way and Jadwin Ave during morning and afternoon commutes	1/30/2020 9:45 AM
395	Too much effort to accommodate bicycles.	1/30/2020 9:43 AM
396	Please do not decrease the amount of lanes on G-Way. Richland has enough congestion without this. The City is gradually taking away all 4-lane streets. We are growing, not shrinking, and this just adds to the congestion. If anything, build a bridge from N. Richland to Pasco.	1/30/2020 9:38 AM
397	Keep bicycles OFF of the streets and on to the bike paths that have been amdfc for their use. More traffic violations are made (in my opinion and what I see) by bicycle riders than by vehicle drivers.	1/30/2020 9:24 AM
398	N/A	1/30/2020 8:08 AM
399	How does this help with the new bridge traffic flow?	1/30/2020 7:32 AM
400	DO NOT PUNISH BUSINESSES FOR FEW BICYCLES THERE ARE MORE BIKE PATHS THAN PEOPLE EVEN USE. VEHICLES BRING BUSINESS MOVE PEOPLE- I WILL BE FORCED TO MOVE MY BUSINESS	1/30/2020 7:08 AM
401	Anything but having G-Way continue as a highway would be best.	1/30/2020 6:51 AM
402	NO	1/30/2020 6:33 AM
403	Utilizing the beautiful columbia river to optimize TC resident and visitor entertainment is the best idea YET!	1/30/2020 5:45 AM
404	I would like to know how this would be implemented without the entire stretch on both roads to be under construction during the whole duration. With all of the traffic backlog during peak	1/29/2020 11:46 PM

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times already and many student drivers who drive through this area on their way to both area high schools, there needs to be a very good plan in place to make sure traffic is still able to flow easily during construction.

405	Making Jadwin and GW Way one-way streets won't solve the traffic problems.	1/29/2020 5:45 PM
406	street parking for the parkway area.	1/29/2020 4:26 PM
407	No	1/29/2020 4:16 PM
408	This survey is intentionally set up to garner the desired results from the consultanting firm. It does not address the total traffic picture and excludes the closure of G-Way at the North intersection of Stevens Drive. Keep G-Way open. Stop putting lights on the 'bypass.' Wait for the Dupertail extension to be complete before conducting anymore traffic studies or making any decisions. The Dupertail extension will drastically change traffic flow. One-way streets are not conducive to accessing businesses or providing timely response for emergency vehicles. We have plenty of parking downtown at the Richland Uptown complex and do not need to clutter our streets with on-street parking. Cycling is limited to citizens who live in the downtown area so all of these extras would be a large expense for a few citizens and mostly teens who don't follow road rules. We have small blocks, so crosswalks at intersections suffice. A final consideration, Richland has many senior citizens who grew up here and are familiar with the roads. Drastically changing to meet big city design will cause confusion and possibly more accidents as they try to maneuver familiar routes.	1/29/2020 4:13 PM
409	why do this at all? I thought the paving of GW was to include a turn lane AND bike lanes. The turn lanes are a safety feature neede back in north Richland!	1/29/2020 4:09 PM
410	taking this servay has increased my concern about what is planned. The city has struggled and made great expense at keeping up with the traffic issues and now to give so much money and space to accomidate a small percentage of cyclists is counter productive and frustrating.	1/29/2020 4:04 PM
411	Waste of taxpayers dollars. Bicycle infrastructure is over rated.More money spent on this could be better spent. Bicycle traffic increase, means more accidents. Safety hazards.	1/29/2020 2:52 PM
412	Why not just allow the bicycles to use the BIKE PATHS by the river?!? Why put them back on the main streets?!?	1/29/2020 2:50 PM
413	No	1/29/2020 2:07 PM
414	I advise you don't get caught up in the idea of innovation and take into consideration the associated risk with each modiciation. On street parking could increase the number of accidents. Signs that are not up to code could open the door to a future lawsuit against the city if a person is severly injured due to this. Benches and furniture will welcome a homeless population to use this furniture as beds. These changes are a waste of money that could be better used for street maintenance.	1/29/2020 2:07 PM
415	I would hope someone on this committee has been to a big city and experienced how awful traffic can be most of the time. Our city is continuing to expand, with thousands more expected in the coming years. So far, the answer appears to be taking space that could be used for additional lanes of traffic and adding bike lanes or landscape that will need to be maintained. I do not understand who is suggesting these options, but I am willing to bet it's the same person who is pushing to install more roundabouts.	1/29/2020 2:01 PM
416	I am concerned about how the transition lane going onto Jadwin is going to work if it becomes a one way street. Would another roundabout make it easier to navigate the streets?	1/29/2020 2:01 PM
417	Are my taxes going up to fund your vision. Any reduction in vehicle lanes will make traffic worse.	1/29/2020 1:11 PM
418	Please do not inconvenience the overwhelming majority for the small minority. There are not as many people as you think are out there riding bikes.	1/29/2020 9:28 AM
419	Gentrification is not a good thing	1/28/2020 9:46 PM
420	The areas around the schools should be considered the highest priority.	1/28/2020 9:07 PM
421	Really like the 1-way concept. I would just add that parking at the parkway is extremely difficult and only going to increase with the new apartments and continued development. I understand that some on street parking will help but it needs more attention than that. I would bet that the current parking capacity barely supports the employees within the parkway area. Regarding the bike lanes, that seems like a lot of money, effort and space for having a river path a block away. I also don't understand where they actually take you. I would like to see more pedestrian, vehicle parking and beatification done rather than massive bike lanes that lead to nowhere.	1/28/2020 7:03 PM

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422	No	1/28/2020 6:29 PM
423	Stop trying to combine bicycle and vehicular traffic on the same crowded roads.	1/28/2020 6:17 PM
424	If there was an overpass built at Van Giesen and another near Fred Meyer's, the traffic would flow more smoothly on the bypass and the people using GW as a transportation corridor would be reduced considerably.	1/28/2020 5:55 PM
425	I am very concerned about losing low income housing in central Richland.	1/28/2020 5:39 PM
426	Weather we want this or not you are still going to do what you want to	1/28/2020 5:28 PM
427	Biking on GWW is too dangerous- we only have two ways in and out of the city especially with all the Hanford traffic.	1/28/2020 5:23 PM
428	I have no problem with increasing safety for bicycles. However, there is a bike path that goes for miles along the river and through the parks. The streets should be for cars.	1/28/2020 5:13 PM
429	Traffic should be routed out of town. Both Jadwin and George Washington way have schools on them, as does Stevens, Thayer and Wright/McMurray. Traffic needs to be diverted around town. Unless you live or do business in central (downtown) Richland, you should not be driving your car through it to get where you are going. The bypass is the alternative. Force people to use it and go around. Require cars who don't register a Richland car tab fee to pay to drive through during the gig traffic times 4-7 am and 330-6pm.	1/28/2020 4:36 PM
430	Don't do it.	1/28/2020 4:36 PM
431	All this is going to do is make a bunch of us avoid this area because it's going to be too much hassel to get to businesses in that area. I would start avoiding it completely.	1/28/2020 1:28 PM
432	will you listen, or will you just do what you want like you did with Queensgate and NOT widen the road and instead put a NARROW circle that you only plow one lane in the winter. Need to address traffic coming into town. West Pasco is growing and the need for a bridge in N Richland to Pasco would be an asset.	1/28/2020 1:23 PM
433	Its about traffic and access...not amenities	1/28/2020 11:01 AM
434	Build bike traffic lanes completely away from vehicular traffic like other cities: see the Arlington, VA model	1/28/2020 9:17 AM
435	your survey is too complicated, and biased as well.	1/28/2020 8:37 AM
436	The outcomes should prioritize commerce, which is enhanced by making downtown Richland a destination rather than a highway. Trying to "fix" Hanford/PNNL traffic for Kennewick and Pasco (and even South Richland) commuters is the wrong priority.	1/28/2020 8:05 AM
437	The recent changes on Jadwin Ave, from 2 lanes northbound to one lane have resulted in backed up traffic enough already. With only 30 minutes for lunch, going into Richland to eat is no longer an option. Switching Gway/Jadwin to one way will do the same, keep people that would/could spend their money in Richland from even going into town. This solution will drive people away from downtown Richland.	1/28/2020 7:54 AM
438	No	1/28/2020 6:55 AM
439	Nope	1/28/2020 6:54 AM
440	Please look at the bypass intersections. This seems to be a more significant problem then GWay. GWay seems to be more about asthetics, where there are many more accidents along the bypass and the intersection going to queensgate.	1/28/2020 6:41 AM
441	City need main arteries. A roads primary purpose is to allow efficient movement of vehicles and should not be part of a business enhancement plan. Any proposal should be put out for majority vote approval. Those who authored this study are a represent narrow interests.	1/28/2020 6:26 AM
442	If there are 30,000 people daily commuting by car through the area, why would you make this MUCH less efficient for vehicles when there is very little foot or bike traffic in the area?	1/27/2020 10:15 PM
443	Most people biking in that area use the river paths, maybe making a nice path from the park to downtown would be a better alternative. I also would like the city to consider how residents feel over the commercial interests it has. Kennewick tried the same thing years ago, and now what used to be the beautiful heart of their downtown is no longer well maintained. I would hate to see that happen to Richland. I think that if anything, spending money to improve Howard Amon and its connection to downtown would do far more to improve the number of people who visit. Or maybe improving Uptown Plaza.	1/27/2020 8:50 PM
444	Thank you to city staff for moving forward on this project.	1/27/2020 7:38 PM

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445	Focus on getting traffic in and out of town. Forget the bicyclists. Open up the bypass and allow traffic to move.	1/27/2020 7:11 PM
446	Don't spend our taxes fixing Hanfords problem. Make them carpool or bring back the buses. Make them accountable.	1/27/2020 7:08 PM
447	This is a solution in search of a problem.	1/27/2020 7:00 PM
448	No	1/27/2020 6:15 PM
449	Take some of the lights off the bypass. Build a bridge to Pasco around WSU Tri-Cities.	1/27/2020 6:11 PM
450	I like the one way street option. Could it be extended further north than Williams? to Torbet or even McMurray?	1/27/2020 6:04 PM
451	I lived in Richland many years and still go there frequently. I don't think any drastic redesigns are necessary. Making it difficult to drive through or too there could hurt the economy and may only stand to benefit those within walking distance.	1/27/2020 5:14 PM
452	I am happy that the city is soliciting feedback and look forward to the improvements that can be made. Thank you!	1/27/2020 5:07 PM
453	We have bike lanes along the river. Why do we need to reduce car lanes and add bike lanes. At any given time, there do not appear to be very many is any bikers out in that area.	1/27/2020 4:39 PM
454	Having a walkable, bikeable, vibrant downtown is entirely possible. Fixing rush hour congestion is not.	1/27/2020 4:29 PM
455	The road diet is the only alternative that achieves the objective of connectivity, from river to parking & creating a vibrant downtown hub of economic activity. We shouldn't be held hostage by commuters from outside Richland. This is our town. PNNL should do more to manage travel demand, e.g. partner with BFT to provide transit passes to employees & create co-working spaces or stagger hours. Hanford should run buses. They are bad neighbors.	1/27/2020 4:19 PM
456	Please leave downtown alone and find some place else to spend your money	1/27/2020 3:52 PM
457	I think we need to make the downtown even more of a place that people will visit, show, and enjoy. More restaurants, shops, and recreation with easy walking and art.	1/27/2020 2:01 PM
458	Use the funds to go towards making the bypass an actual bypass. More parking is needed, just look at why Taco Time left the building. Parkway area needs more parking, I will avoid that area on certain days. Richland Farmers Market should be moved, too cramped into that space.	1/27/2020 1:31 PM
459	I understand that you are trying to make downtown Richland more "Seattle like" with the biking and walking, however, these changes would be for a small group of individuals but have a greater impact to the masses (those living outside of the downtown area.) You need to consider all and not just a vocal minority.	1/27/2020 11:48 AM
460	I chose NO landscaping because the City already does NOT take care of the the present street landscaping along G-Way. More landscaping would truly be an asset & would increase the need for additional staff for its care but so often landscaping gets neglected.	1/27/2020 11:08 AM
461	Jadwin option alternative is my favorite option	1/27/2020 10:57 AM
462	The consultant proved that we cannot have a vibrant downtown while maintaining commuter traffic. We should not spend Richland tax \$ on making changes that harm our downtown while making it easier for people to live in Kennewick & Pasco. Do nothing is preferable to the build alternative. The Road Diet is the only option to enhance our downtown.	1/27/2020 10:56 AM
463	On most of these questions you didn't give the option of NEVER! Why are you so adamant to ruin the traffic flow in Richland???	1/27/2020 10:21 AM
464	Our community having a safe and beautiful downtown waterfront to enjoy with our families for years to come.	1/27/2020 9:32 AM
465	This is an expensive project. What can you do that is affordable until funding can be secured for the couplet?	1/27/2020 9:29 AM
466	Making G-Way and Jadwin worse for cars without actually taking action to reduce traffic flow to Hanford first will just make the situation worse. Look at things that actually attempt to reduce the flow before trying to reduce the lanes available to cars.	1/27/2020 7:58 AM
467	We have a beautiful path along the river that is remarkable biking. Bringing in more biking in the inner city does not seem like a good use of funds.	1/27/2020 7:50 AM

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468	Performing Arts Center would be HUGE asset!	1/27/2020 7:47 AM
469	Focus on car traffic which is already a huge issue in Richland.	1/27/2020 7:45 AM
470	We would need better education about how vehicles should interact with pedestrians and bikes. Right now, it's bad. Cars hardly slow down for the school zones (when lights are flashing), and there's no consideration for people on bikes. It's scary. And people who walk and bike ought to be taught how to conduct themselves properly when next to moving vehicles. Can't believe I have to type something like that, you'd think it's common sense, but it's not.	1/27/2020 7:33 AM
471	This is a totally biased survey. It assumes that traffic needs to be disrupted and that bicycles should have priority. We are not Seattle. Richland is not a walking destination. Dedicated bike lanes are only desired by a small minority. Bike lanes are barely even used in Seattle. Traffic does not need "calmed". Please stop messing things up!	1/27/2020 7:32 AM
472	Cyclist are the problem due to failure to abide by rules of the road	1/27/2020 6:07 AM
473	I am concerned how much this is all you g to cost. Don't care for one-way streets. Don't think reduced lanes will be helpful.	1/26/2020 10:13 PM
474	No	1/26/2020 8:57 PM
475	I do not understand why a big apartment complex is being built on lee an gww when you're trying to focus on making the tourist friendly	1/26/2020 8:39 PM
476	Reduce speed in Gway to Williams to 25 mph.	1/26/2020 8:06 PM
477	These changes are not appropriate for the area. We do not have the infrastructure of a large city which would make this plausible. We have a lousy bus system. Richland is long and narrow so that with few arterial streets that reducing the vehicle access on one of the arterials will cause fewer people to venture farther into Richland. We need actual business development further into Richland - like in the uptown area. I do not agree that we need any additional bike lines, I think there are more than enough. In addition, the streets which have been redone with this process in mind are nightmares. I hate how Swift has been affected. It is incredibly dangerous with all of the sidewalk parking along both sides. It is incredibly difficult to see the cars coming out of the park lots or for them to see cars driving down Swift. In addition, people crossing in the middle between close lights is really obnoxious. If you want crossing not at the lights, there should be overhead walkways. Sometimes it is really hard to see pedestrians wanting to cross at the midway crossings. There are a whole other host of reasons why this is a lousy idea.	1/26/2020 8:05 PM
478	Regardless of the changes to Jadwin, it would be nice to keep George Washington Way the same. Especially after the recent changes done.	1/26/2020 7:54 PM
479	No	1/26/2020 4:39 PM
480	encourage to implement recommendations	1/26/2020 3:37 PM
481	I only started regularly driving at the beginning of this year, before I biked and walked everywhere. Overall, there needs to be some huge improvements on roadways for bikers and pedestrians.	1/26/2020 1:29 PM
482	traffic backup starts at arron	1/26/2020 10:56 AM
483	Most people I know don't care about bikes and bike lanes. They care about a safe, walkable, and cute downtown area that is close to the river.	1/26/2020 9:47 AM
484	THE BYPASS HIGHWAY NEEDS FIXED.	1/26/2020 8:28 AM
485	Downtown is "land-locked". There are too few streets leading out of the downtown area and those that are available are too congested during certain times of the day. In the case of an emergency requiring evacuation no one would be able to leave in a timely manner. Traffic should be routed away from the downtown area not through it. That will allow the downtown to grow into a destination rather than a pass-through.	1/26/2020 8:11 AM
486	Noise control walls in Jadwin side as it's close to residential homes.	1/25/2020 10:11 PM
487	Although I'm suess there will be cyclists, I don't believe there is going to be enough to really be worth spending huge dollars for changes	1/25/2020 9:49 PM
488	Why are we always trying to accomodate the minority (such as the new bridge and bicyclists). We should be looking at better vehicle traffic flow and keeping congestion to a minimum. Stop trying to turn Richland into Portland, OR because it will turn into a nightmare.	1/25/2020 9:23 PM
489	No	1/25/2020 8:41 PM

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490	It seems like you spent a bunch of money moving traffic off of Jadwin a few years back. It seems silly to go back. Making GW and downtown more walkable is a noble and worthwhile goal.	1/25/2020 8:40 PM
491	Don't make them one way	1/25/2020 6:50 PM
492	Definitely a pedestrian bridge at Lee Blvd. During the Art in the Park event, leaving and entering the park at Lee is nearly impossible, as each light cycle allows one car to get through, because of insanely high pedestrian crossings all ways.	1/25/2020 6:42 PM
493	I am concerned about the priorities being put forward by the city of Richland. I find many of these ideas disturbing as they seemed indicate that you want to limit traffic. Richland had a reputation many years ago has anti-business. It seems that we are coming back to these days. Please reconsider these options to restrict traffic and make things more difficult for your citizens	1/25/2020 5:47 PM
494	You incompetent bastards.	1/25/2020 4:25 PM
495	I would rather see the city council have a vision for being more businesses into the city. Remove the old Albertson's because no one is going to buy it and it is an eyesore wasting electricity. Turn it into a park or something useful. Richland has become so unsightly from when I grew up, it is a shame. There are so many buildings rotting away and being unused. Clean up the city before turning the traffic into more of a headache. What will this one-way do to Hanford traffic? It'll force more people into McMurray and Van Giesen, Swift and Duportail.	1/25/2020 4:16 PM
496	Leave the Damn DOWNTOWN ALONE!!!!	1/25/2020 2:29 PM
497	I think the Road Diet option should be reconsidered.	1/25/2020 2:03 PM
498	Even with bike lanes installed in the new paving on GW Way in north Richland, I have NEVER seen a bike rider use them. I use the bike path, which is safe and car-free.	1/25/2020 1:37 PM
499	Dont change G W Way and Jadwin!!!! There are more drivers than bicycles!!!!	1/25/2020 1:35 PM
500	Stop putting trees in curbs. It's been done on swift and GWay, and they make it very hard to turn without being half way in the street. They are a visual obstruction and dangerous to both drivers and pedestrians. Those trees are a hazard the city has caused. Home owners are fined for such things, the city should be following their own code enforcements laws.	1/25/2020 1:08 PM
501	Stop trying to be Portland. We don't want one way streets and bulb-outs. Have you ever tried to drive in downtown Portland with all their one way streets and pedestrians? It's a nightmare.	1/25/2020 1:04 PM
502	Think of the businesses on both sides and the lack of parking in those areas.	1/25/2020 11:57 AM
503	making downtown bicycle friendly is not a whole community approach especially for folks who distance or mobility issues. I'm not interested in supporting creating haven for the young because they think its a good idea	1/25/2020 11:53 AM
504	Don't make it harder for the majority of people. Especially making G W Way & Jadwin one way!!!!	1/25/2020 11:34 AM
505	It creates difficulty reaching businesses. Cities that implement one ways create frustration to businesses and drivers. I've lived in previous cities with one ways. People become frustrated and confused. Bad plan Richland.	1/25/2020 11:06 AM
506	Bicycle travel in richland is not sufficient enough to constitute this construction.	1/25/2020 10:55 AM
507	1. I am concerned that one part of gway may be safe to ride bikes on, but the connecting bike Lanes on the North end of town are a death wish. 2. what sort of maintenance will be done on the bike Lanes? Since vehicles tend to kick road debris into the neighboring bike lane 3. I am concerned that if gway becomes a one way, crossing from Howard Amon to the parkway will be more dangerous. If gway becomes a one way, will the speed limit be reduced?	1/25/2020 10:37 AM
508	Walking/running/recreational accessibility	1/25/2020 10:35 AM
509	No	1/25/2020 10:11 AM
510	Do not add bike lanes. It's jacked up SEATTLE!	1/25/2020 9:38 AM
511	No	1/25/2020 9:36 AM
512	After 20 years you think this would have been done by now.	1/25/2020 9:05 AM
513	these changes would be expensive with only results for a few people. Bikers have riverside bike lanes and can commute all though the tri-cities. I don't agree with all these changes to support a few people.	1/25/2020 8:58 AM

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514	We have to improve the walkability and safety of Downtown Richland. This is a very exciting project!	1/25/2020 7:51 AM
515	Focus on improving driver traffic flow.	1/25/2020 7:45 AM
516	Richland has been focused for years on moving people through the downtown. This has resulted in lots of people moving through the downtown. It is time to consider why we have cities. Cities are for people, not for cars. We need to improve the non-car related infrastructure and slow down traffic on Gway. People won't want to walk or sit on Gway with cars whizzing by at 40 miles per hour.	1/25/2020 7:37 AM
517	make other roadways more traffic friendly before changing traffic flow to badly needed of repair streets.	1/25/2020 7:33 AM
518	Downtown Richland is our only urban and pedestrian friendly area in the Tri-Cities. Whatever you do, make it walkable, make it nice, and make it safe.	1/25/2020 7:19 AM
519	I believe providing wider sidewalks, flashing light crossing zones, and enforcement of traffic speed zones would be most cost effective. I am really tired of motorists hitting pedestrians because of speed and inattention!	1/25/2020 7:05 AM
520	Downtown Richland is a main thoroughfare. Traffic is already bad enough in the morning I can't imagine any of these options actually being viable to help the amount of traffic. The majority of people aren't going to ride their bikes through downtown Richland while they commute to work. Why is the city pandering to the needs of the few while ignoring the majority?	1/25/2020 6:39 AM
521	Just where is ALL the bicyclists who need these two roads to travel? I may see a bicyclist once in awhile, but not nearly the amount of people to change two major thoroughfares. Are we being TAXED to accommodate something, nonexistent? I am sure the City will spend the money, only to hear people upset about it. Wait, watch, and see.	1/25/2020 1:19 AM
522	I think the city should quit wasting our money on stupid shit. More sidewalk shade? Are you fucking kidding me? Tite repair station? Slower speed limit to help with traffic? Who put you morons in office? Get the fuck out of my wallet and find something useful to do.	1/25/2020 12:24 AM
523	Kendall yards in Spokane has been a very successful area with lots of appeal. Would love something similar.	1/24/2020 10:58 PM
524	the light patterns should be heavily considered	1/24/2020 9:38 PM
525	leave as is	1/24/2020 9:02 PM
526	I am very disappointed that this doesn't include anything about transit.	1/24/2020 8:30 PM
527	Make it happen without one way streets!	1/24/2020 8:29 PM
528	Please work for your constituents and not the commuter who just pas through Richland on their way to and from work	1/24/2020 8:17 PM
529	There are not enough pedestrians and/or bicyclists to warrant this crap. Leave it alone and quit trying to think of ways to waste our hard earned taxpayer money. Stupid!!!!	1/24/2020 8:02 PM
530	I have numerous comments that I will submit on the comment forms provided.s	1/24/2020 7:27 PM
531	Leave it as it is! Improve the bypass instead	1/24/2020 7:20 PM
532	Increasing bicycle traffic on the main streets is a terrible idea, and I say this as an avid cyclist. Richland streets provide multiple alternate options to ride the length of this area. It would be nicer to have better options in the north-south direction, which is currently quite bike-unfriendly. On- street parking should be prohibited in this entire corridor. There are many parking options available. On-Street parking interferes with driving, walking, and cycling everywhere it is allowed.	1/24/2020 7:01 PM
533	Bicyclists should not be allowed on the street.	1/24/2020 6:39 PM
534	no	1/24/2020 6:24 PM
535	When there are ramps in sidewalks it makes it hard for wheelchairs and elderly to Walk please plan appropriately in increase walk ability	1/24/2020 6:22 PM
536	These are not great options.	1/24/2020 6:18 PM
537	Where is the money coming from to purchase the land and demo the buildings to make the transfer way? I was looking at purchasing a home in Richland but the taxes to cover these costs will exceed my budgeted amount. Good luck with the project. Nice the city will cater to the	1/24/2020 6:05 PM

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people that can afford the \$3 grand apartments at Howard Amon and forget about those that live around Richland with crappy streets.

538	If it ainy broke dont fix it. Start teaching common traffic rules again.	1/24/2020 6:03 PM
539	Why do you think there will be lots of bicycle rides in old downtown Richland? In all of your scenarios old town is still a major pass-thru corridor. You haven't dealt with that. The fact is "downtown" is the thing you want to drive through with the least hassle to get where you are going.	1/24/2020 6:02 PM
540	Quit narrowing are streets down any coming up with ways to spend our money. You need to invest in infrastructure and not dreaming up ridiculous plans.	1/24/2020 5:40 PM
541	Vacant lot next to Richland Players theater be purchased for parking for farmers market, parking to accommodate all the new restaurants, and events held at Howatd Amon park	1/24/2020 5:31 PM
542	The city planners need to concentrate on traffic flow in and around the city instead of wasting our money and time on this crap	1/24/2020 5:23 PM
543	I would actually like the city to think about the people who live along these two streets and how it would negatively affect them. Also if the voters nix the ideas don't do it anyway. For once - listen to your constituents.	1/24/2020 5:06 PM
544	There is currently no bike lanes so creating something will be an improvement	1/24/2020 4:53 PM
545	Extending the one-way couplet fearther North	1/24/2020 4:27 PM
546	Trying to reduce traffic in the downtown is great but unrealistic until the bypass is updated to handle the diverted traffic flow. This is just moving the problem around not fixing it.	1/24/2020 4:17 PM
547	With the new apartments along GW Way/Howard Amon Park, where will the residents park??? I feel they will end up using the parking in the parkway taking spaces away from businesses there. can they use the old police station as a parking lot?	1/24/2020 4:05 PM
548	Leave the city alone.	1/24/2020 3:51 PM
549	Please don't make my street impassable each work day when Hanford lets out. That is what will happen if you make either Gway or Jadwin a 1 way street. Please don't do it.	1/24/2020 3:47 PM
550	The plan right now, preserves McDonalds, but cuts through low end housing, yet the plan doesnt state what it plans to do for the people who will be without homes. What will be done for them?	1/24/2020 3:29 PM
551	Fix the bypass	1/24/2020 3:21 PM
552	Stop trying to be Seattle and focus on better schools and roads with out pot holes	1/24/2020 3:14 PM
553	On street parking should be prohibited in this area regardless of other alternatives. Downtown Richland has plentiful, reasonably available parking. On street, curbside parking interferes with pedestrian and bicycle safety, and with safe driving.	1/24/2020 3:13 PM
554	Monorail	1/24/2020 3:10 PM
555	Get rid of the lights on 240 and add on-off ramps	1/24/2020 2:45 PM
556	I am very concerned about the affect of rerouting GWW by making it one way.	1/24/2020 2:41 PM
557	Bicycles should have to use side streets when possible. This would improve safety for all.	1/24/2020 2:26 PM
558	The biggest concern with modifying the traffic flow of Geo Wash Way and Jadwin in that area is the Hanford traffic and commute. These options all need to be in consideration with improving the By-Pass highway and making that a true highway (i.e., no lights, and better on/off ramps)	1/24/2020 2:25 PM
559	THINGS ARE FINE, LEAVE THEM ALONE.	1/24/2020 2:22 PM
560	My only comment is to encourage extending the one-way corridors further North. I realize the limitations in design and space but the Couplet is a very effective traffic option. Either way I am happy the One-Way Couplet plan is the top option and know this will significantly improve traffic flow and overall reviving downtown Richland area.	1/24/2020 1:59 PM
561	No	1/24/2020 1:58 PM
562	Leave it as is. Any of the 3 options will be worse.	1/24/2020 1:54 PM
563	You have already messed up Swift and Lee. Leave Geo W alone!	1/24/2020 1:53 PM
564	If you make it difficult for people from out of town to drive in Richland, we likely will spend less	1/24/2020 1:45 PM

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	time AND money in Richland.	
565	The Parkway is terrible parking especially when large trucks come through.	1/24/2020 1:44 PM
566	Please do something to improve the live-ability of our downtown core. Please don't end with another study, please implement the decision. Thanks!	1/24/2020 1:44 PM
567	Yes - MOST important is to integrate housing/retail/commercial and make things walkable as well as bring people to key areas - much like recently done with the new apartments by HA park - What about an apartment complex at uptown? On Lee? Why not? Check out streets of St Charles, MO	1/24/2020 1:35 PM
568	It is time that Bicycles be State Licensed and Fees adjusted for the improvements they require. All Bicycles must met standards with regards Brakes Head and Tail Lights to	1/24/2020 1:29 PM
569	My family would love to have a walkable downtown with stores/restaurants	1/24/2020 1:19 PM
570	This whole thing is nonsensical and inefficient. Pedestrians have enough room already, and cyclists use the green belt. City planners should be fired. You put ANOTHER business off G Way WITH high density living? Total contradiction. This isn't Seattle it PDX...stop trying to be.	1/24/2020 1:13 PM
571	No changes. Please stop spending money on bicycle luxuries.	1/24/2020 1:11 PM
572	The Current plans do nothing for to improve the south end of G-way. This is already a huge problem. This really only addresses a few blocks in central Richland.	1/24/2020 1:08 PM
573	Stiffer and more frequent penalties for motor vehicles speeding, not stopping for pedestrians legally crossing, distracted and aggressive driving. De-synchronize stoplights on GWW and Jadwin so drivers transiting the entire length of these roads for their commute will have to stop frequently to reduce speeding and encourage them to use the bypass instead.	1/24/2020 12:58 PM
574	For walkways, I think I selected, in this order: more trees, more lighting, and more shade. I just want to be clear that by "more lighting" I thought it was a reference to streetlights/lamplights for nighttime light. More lighting in the evening would be nice, especially if it could be done in a subtle, classic manner. Downtown Richland has a lot of potential to be the more quaint, romantic, downtown of the tri-cities, reminiscent of another era. Personally, I think lighting and the streetlights will have a big impact on how it feels down there. Please consider some sort of retro lamppost or something that will really add to the quaint feel. Also, the uptown really needs to get cleaned up. I realize this is something the owner is responsible for, not the city, but are there any codes or zoning restrictions that could sort of force a facelift? I'm not talking about changing the style that is reminiscent of an era, rather cleaning it up and making it look a little less "developing country".	1/24/2020 12:43 PM
575	Change the street back prior to wasting time with the bike lanes.	1/24/2020 12:36 PM
576	I would be pretty upset about the proposed changes and would probably use downtown richland less	1/24/2020 12:32 PM
577	Consider making the current the Riverfront, Shelter Belt and maybe even along the Yakima river bike paths known more of there use before changing a major collector road(s) for bikes and pedestrians that just does not seem to be a real concern.	1/24/2020 12:29 PM
578	no	1/24/2020 12:18 PM
579	The Parkway has come a long way. Thank you for continued improvements!	1/24/2020 12:13 PM
580	Bikes on roadway should have a permit just like any other mode of transportation	1/24/2020 11:49 AM
581	Bike lanes that don't get obstructed by vehicles or unaware pedestrians is needed. I would love to bike to work, but fighting morning rush hour traffic to get there is currently overwhelming as a cyclist.	1/24/2020 11:42 AM
582	I recommend the one-way option but not reducing the lanes to 3 in each direction. Why not have 4 northbound on GWW and 4 southbound on Jadwin?	1/24/2020 11:24 AM
583	Stop allowing a few outspoken citizens to change the entire downtown area making it inconvenient for the majority of citizens.	1/24/2020 11:19 AM
584	We have accessible, well built & beautiful bike/walking paths (3 that I can think of) in Richland. The larger problem here is Hanford vehicle traffic	1/24/2020 11:11 AM
585	Development is outpacing parking and sanitation. The Parkway is a prime example - limited parking and overflowing dumpsters. You even removed the three dumpsters from the south Parkway lot. More food business means more trash in addition to more customers taking up available parking for non-food services. With the condos across the street, there had better be	1/24/2020 11:09 AM

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a parking garage going in. Where are those hundreds of people supposed to park? Better not be in front of my business!

586	The options in this survey are a band-aid and do NOT ADDRESS THE REAL PROBLEM OF TOO MUCH TRAFFIC TO GET TO THE HANFORD SITE. The only meaningful solution is a bridge to Pasco at North Road 68 and Horn Rapids road.	1/24/2020 11:02 AM
587	If the City Council insists on bottlenecking access to 240-S, provide an alternate option to get to Kennewick from Richland, especially for those commuting during rush hour. The Bypass is NOT currently equipped to handle the extra traffic that would be diverted away from GWay and Jadwin.	1/24/2020 10:56 AM
588	No	1/24/2020 10:56 AM
589	Make people stop using GW way as a highway please!	1/24/2020 10:36 AM
590	Let us make the downtown area a walk-around Mecca!!! Move traffic to Jadwin. Put in additional parking. Let families and professionals alike have a place that they can go and enjoy life!! Connect the park to the Parkway!!	1/24/2020 10:34 AM
591	I don't why your asking. You will do what you want at the expense of the tax payer. These changes are for a few people with the majority paying for it.	1/24/2020 10:30 AM
592	As a home owner and resident of Richland, I feel we need to stop catering to the through traffic from Hanford. People are speeding through town with abandon causing collisions and injuries. It must stop. Those who commute through our city do not stop for businesses.	1/24/2020 10:29 AM
593	I believe that making changes to the Richland business district without a reasonable alternative to handle the traffic is a big mistake. If there were so many people bike to work or to the downtown area and beyond that it poses a problem then address additional bike lanes and safety. There is existing bike paths by the park and on the street that are minimally used. Inconveniencing many to accommodate a few will not accomplish the Coty vision. It will only serve to keep people away. Look to Lee blvd as an example. Revitalize Lee blvd and open Lee back up to the river if your goal is to connect the river to the business district. I have avoided areas that are already changed to include Lee, Goethals, Steven's Dr (N. Richland), Thayer Dr access to the freeway. To now interfere with through traffic access on George Washington Way a main Richland artery, and Jadwin a back up will make getting around Richland more frustrating. Further, I believe that these plans will negatively impact my business or force me to relocate, perhaps out of Richland. Again, what has been purposed is a very bad idea.	1/24/2020 10:17 AM
594	Please consider the high pedestrian use of downtown. There are a lot of schools, parks, library, recreation in that area. Pedestrians should take priority above vehicles.	1/24/2020 10:15 AM
595	Please carefully consider the impacts on residential areas close to Jadwin and G Way. Thayer Dr is already a problem as commuters use it to avoid signals and traffic. Consider lower speed limits and speed bumps on Thayer and Stevens as well.	1/24/2020 10:14 AM
596	Don't change roads, they are great the way they are.	1/24/2020 10:09 AM
597	Look at what works in other cities. Don't introduce some weird new system that visitors will not understand. Keep it low maintenance as you are appealing to a very tiny bike population that is just very loud and opinionated. If bikes are on the street, take them out of the parks - they are a pedestrian hazard.	1/24/2020 10:06 AM
598	I think there is a lot of money looking to be spent with very little if any payback. Be better at spending money than has been done. Stop looking for things to fix that don't need fixing and fix things that do need to be fixed. Eliminate the congestion on G Way at Columbia Point by reducing the stop lights or timing them at peak times to facilitate traffic out of Richland. The proposal does nothing to address real problems.	1/24/2020 10:04 AM
599	Is it really necessary to have GW Way and Made in available for Hanford traffic?	1/24/2020 9:55 AM
600	There has to be people living in or near downtown for this to work.	1/24/2020 9:47 AM
601	Who will be held responsible for the mess that will be made?	1/24/2020 9:46 AM
602	Please improve the accessibility of the survey by making the survey link more clear on the study page (https://www.ci.richland.wa.us/departments/public-works/capital-projects/downtown-connectivity-study)	1/24/2020 9:42 AM
603	Please think about long term sustainable options To built culture and community not what will make you money	1/24/2020 9:36 AM
604	Take action to reduce traffic to employers/businesses north of University Way. Implement congestion pricing. Require major employers/businesses to develop plans to have their	1/24/2020 9:35 AM

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	employees walk/bike/car pool/Van Pool/transit to work.	
605	This is NOT A BIG CITY!! COMMUTERS from your most important funding source - Dept. of Energy contractors and their commuting should be considered FIRST!	1/24/2020 9:35 AM
606	No	1/24/2020 9:31 AM
607	Making Richland more walkable would be absolutely amazing in the summer, and I look forward to whatever comes up!	1/24/2020 9:28 AM
608	Lower the speed limit city wide. Enforce speed limits, enforce traffic crossing rules for pedestrians (for motorists and pedestrians)	1/24/2020 9:26 AM
609	Parking parking parking for people close to howard amon park. The payment complex parking garage does not accommodate all the residents cars. The overflow will fill what little parking there is for the park goers. PLEASE make more parking space	1/24/2020 9:25 AM
610	No	1/24/2020 9:23 AM
611	Pedestrian bridges would be incredibly helpful. Along with different forms of public transportation	1/24/2020 9:21 AM
612	I love that the city is taking the action to improve the downtown with walkability and prioritizing pedestrians. I'm sure there will be plenty of pushback from commuters who only see the downtown as a highway, but they don't understand the potential we have here. This can be our chance to create a wonderful livable space akin to Leavenworth and Walla Walla's downtowns. Let's not loose this opportunity! It'll be an economic and quality of live boost for decades to come!	1/24/2020 9:18 AM
613	Do not force the will of very few (bicyclists) on the many. I CAN NOT AFFORD any more increases in my property taxes. Fix the Bypass traffic problems first, get the Kennewick and Pasco Hanford commuters off GW and onto the bypass, and if that doesn't work, then look into modifying the streets in Richland.	1/24/2020 9:11 AM
614	Focus on the speed and traffic on Benham, Comstock and Goethels before you mess up the traffic on GGW or Jadwin	1/24/2020 9:05 AM
615	Thank you for the opportunity— I hope you get lots of replies!	1/24/2020 9:03 AM
616	Very few people ride bicycles to/from work. Bicycles are used by a small number of people for recreation when the weather is good. We do not need to spend money to reduce mobility for the majority of people to add features of dubious value that will be used by few people.	1/24/2020 9:02 AM
617	Please consider the 'population' making these requests. What is the percentage of the overall population in Richland??	1/24/2020 9:01 AM
618	Bike traffic is a detriment to road safety. Pedestrians, don't help through traffic which is a majority of the traffic on this road... The people suggesting these proposals don't understand the basic usecases of these roads.	1/24/2020 8:55 AM
619	Turn lanes are the most important in my opinion because it eats up the left lane and requires vehicles to quickly merge right on the north end of G-Way. I hate one-way roads.	1/24/2020 8:47 AM
620	Again, please consider the needs of residents above commuters. Richland should be more than a thoroughfare.	1/24/2020 8:47 AM
621	Thousands of people travel by car through Richland hundreds of times each year to get to work to earn a living. Thousands of people drive to businesses and restaurants to purchase goods and services. In days that it is not 100+ degrees, not icy or snowy, not raining or winding, a few people want to ride their bikes. Please do not spend millions of taxpayer dollars to further restrict traffic for the 99% because of a very vocal very small minority of people.	1/24/2020 8:41 AM
622	The way Swift turned ojt is not well thought through. Having a bike lane insode of vehicle parking is dangerous. Also having turn lanes dorect cars to pass through the bike lane defeats the entire pupose of the bike lane safety. Do something different on Gway please.	1/24/2020 8:33 AM
623	No	1/24/2020 8:31 AM
624	You've already screwed up congested roads by reducing lane, why would you make more crappy Seattle style decisions for our city?	1/24/2020 8:29 AM
625	Please focus on the bypass first before making any changes to downtown traffic. If that traffic can't get out of town all of these changes will make things worse, and I will avoid that section more than I already do. Traffic backs all the way to John Damn as it currently is, this could make that worse.	1/24/2020 8:27 AM

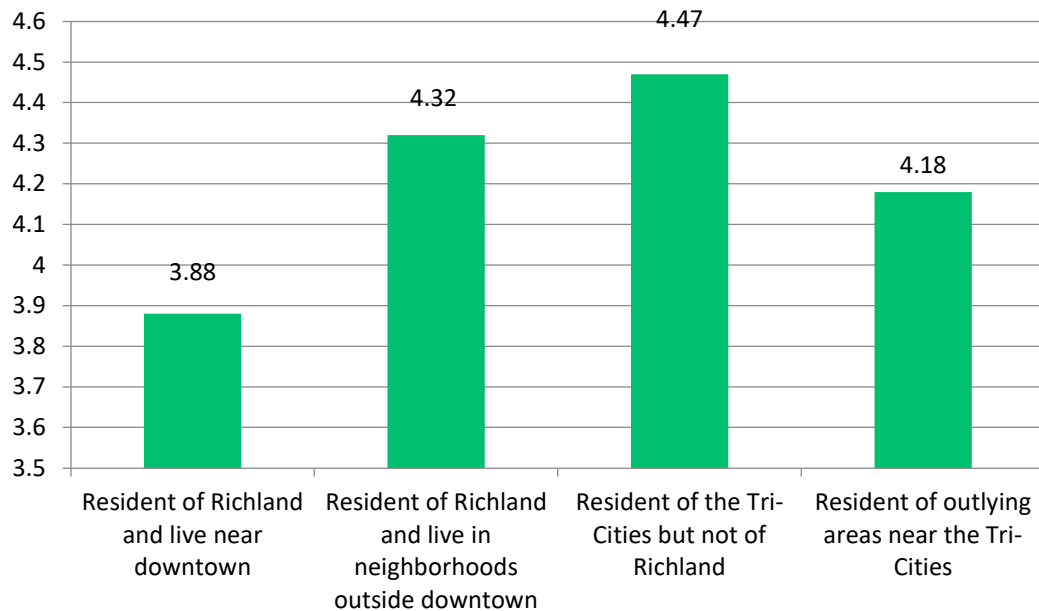
Downtown Connectivity Study: Alternatives and Amenities Survey

626	Utilize the old city hall site for parking for downtown visitors.	1/24/2020 8:26 AM
627	The speed limit needs decreased to make it safer for pedestrians to cross. This will cost next to nothing and will save lives	1/24/2020 8:18 AM
628	We just expanded sidewalks on g-way. We need more parking, if anything. Turning g-way into a one way would be the worst move ever. This does not strike me as a way to help pedestrians, but as a way to get more funding. If you must waste money, consider adding in pedestrian bridges and parking lots.	1/24/2020 8:09 AM
629	Seems really ridiculous that all that money was spent widening GWay just to turn around and spend more on narrowing it!	1/24/2020 8:02 AM
630	This is a very bad idea.	1/24/2020 8:00 AM
631	Considering growth and aging populations. Make multi modal safe and plan for less cars	1/24/2020 7:48 AM
632	Too much focus is on the parkway which is very tightly surrounded by jadwin and gway. More attention needs to be given to the uptown and torbett areas especially with the new look of the elementary school. Over the past 5 years I have sadly watched the uptown look more and more like a forgotten eyesore with many of the small businesses saying they are struggling. We need more efficient events at the uptown hosted by richland, not west richland. Furthermore none of these proposed changes affect the fear I have about getting hit by cars when using the crosswalk at the light. Once a week I have drivers making right hand turns and only looking left coming close to hitting me because they make their turn right as the light turns. I propose allowing pedestrians to cross while all other lights are red. People are just too impatient and too focus on their smartphones.	1/24/2020 7:43 AM
633	Rather than trying to change the traffic on GW Way and Jadwin the city should look at bridge option such as a bridge to Pasco near PNNL/WSU area. This would alleviate a huge amount of traffic for folks who travel to Pasco. Create a throughway over to Road 100.	1/24/2020 7:38 AM
634	Do nothing that would reduce traffic flow through Richland. Traffic is very bad, removing lanes and reducing flow would make it worst.	1/24/2020 7:11 AM
635	No	1/24/2020 6:57 AM
636	Please bring landscaping back outside of Ace	1/24/2020 6:48 AM
637	Bikes have a great trail to ride on. Take bikes off gway and marwin.	1/24/2020 6:28 AM
638	Actually plan for long term population growth instead of bandaid fixes.	1/24/2020 6:19 AM
639	There's not enough bicycle traffic to warrant spending on this.	1/24/2020 6:15 AM
640	Leave it alone Pete	1/24/2020 6:03 AM
641	Sounds like you have already made up your mind. I would like to see this on a ballot.	1/24/2020 5:59 AM
642	Why is bicycling the main concern for the city of Richland? We have thousands of citizens driving vehicles to navigate the cities and maybe a couple hundred citizens who utilize bicycles for travel. Public money should be spent on improving travel for the majority. City of Richland is the main way to and from work from one of the largest work locations in the tri cities. Let's focus on helping those people commute to and from work.	1/24/2020 5:42 AM
643	Stop wasting money on stupid crap and improve/parking for cars	1/24/2020 12:58 AM
644	Thank you for pursuing these much needed changes!	1/23/2020 11:57 PM
645	Yes, though I fear this won't be read anyway. It seems as though the committee has already made up its mind. I very much dislike the way this has been portrayed and is being portrayed as being 4 options, though it was stated multiple times at the open house that the Jadwin option and the road diet were already dead. In the survey it states the best option is the couplets and a statement like that is very leading and would be jumped all over in court (yep, that's for the lawyers on the council). I have not seen a traffic study of what the cause of congestion is, where all of the cars are coming from. It was stated to me the majority of the congestion is coming from the central Richland core, namely the medical area. Without a traffic study I have a difficult time with that (hundreds of workers in the core to thousands of workers on the science complexes out GW). To reduce congestion (which really seems to be the aim, and a good aim) you need to reduce the traffic coming up GW. Though many cars at the beginning of the journey can be spread out, as they encounter more lights and cross streets, as they do more at Symons, the traffic slows down. The further they go the more back up. Next, of the 4 option, I preferred the road diet and reduced speeds	1/23/2020 11:52 PM
646	More restaurants/bars and store fronts on downtown area instead of law firms and insurance	1/23/2020 11:44 PM

Downtown Connectivity Study: Alternatives and Amenities Survey

	companies	
647	No	1/23/2020 11:41 PM
648	Build a high rise with shopping and restaurants at the old city hall location	1/23/2020 11:22 PM
649	If you continue to push this none of you will be re-elected. Richland is not a hip young city. We don't want to wander around looking at overpriced ugly public art. We drive cars. We will always drive cars. Stop meddling in things like this. You obviously have no idea what you're doing. And stop wasting money on these idiot consultants.	1/23/2020 11:18 PM
650	Stop ruining things. There is no problem except a few hours a week. Promote carpooling .	1/23/2020 11:10 PM
651	Bicycles need a designated bicycle area that they must stay in because they are hard to see and scary to have to drive a car near.	1/23/2020 11:08 PM
652	Stop taking our traffic lanes away. If you want less traffic in town, support the state in fixing the bypass	1/23/2020 10:58 PM
653	If G-Way must have traffic reduced, consider having fewer traffic lights on the Bypass that slow commuters during rush hours.	1/23/2020 10:48 PM
654	Think about the money that will be spent doing this project and how effective and convenient it would actually be for daily travelers	1/23/2020 10:47 PM
655	This is stupid. We already have a "trail". Please worry about actual solutions to traffic. You can hit every single green light or every single RED light on that stretch of Jadwin or G. Way at any time of the day. Other than parks and the people working downtown and walking to lunch on their break, it is it not a pedestrian draw other than the Farmer's Market. One lanes will make this worse. Grow the area first and the draw for pedestrians. STOP making traffic worse for all those who work in N. Richland. Deal with that issue first.	1/23/2020 10:45 PM
656	Slower vehicle speeds are proven to be safer for pedestrians and bicyclists, and don't reduce vehicle volume. This inexpensive option needs to be more seriously considered. The only option that's obviously being considered is the one-way couplet, and there's no increase in pedestrian/bicyclist safety. Please consider less destructive and expensive options before sticking to an ineffective and expensive option. Pretend it's your neighborhood.	1/23/2020 10:38 PM
657	NA	1/23/2020 7:58 PM
658	The expensive cutover ending the one way south of the uptown is short-sighted. Save the money and combine Jadwin with GWW at Symons or Van Giesen.	1/23/2020 7:16 PM
659	The uptown center should become a cultural district	1/23/2020 6:53 PM

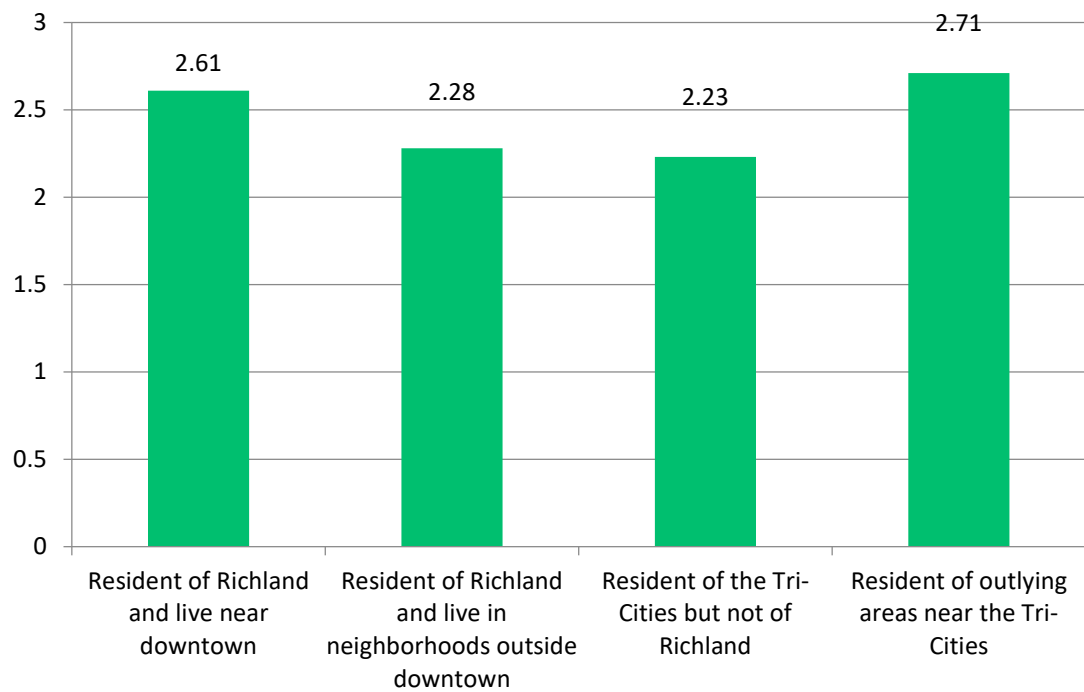
Q4 by Q1: Respondents' priority of efficient vehicle travel, by their residential relationship to Richland:



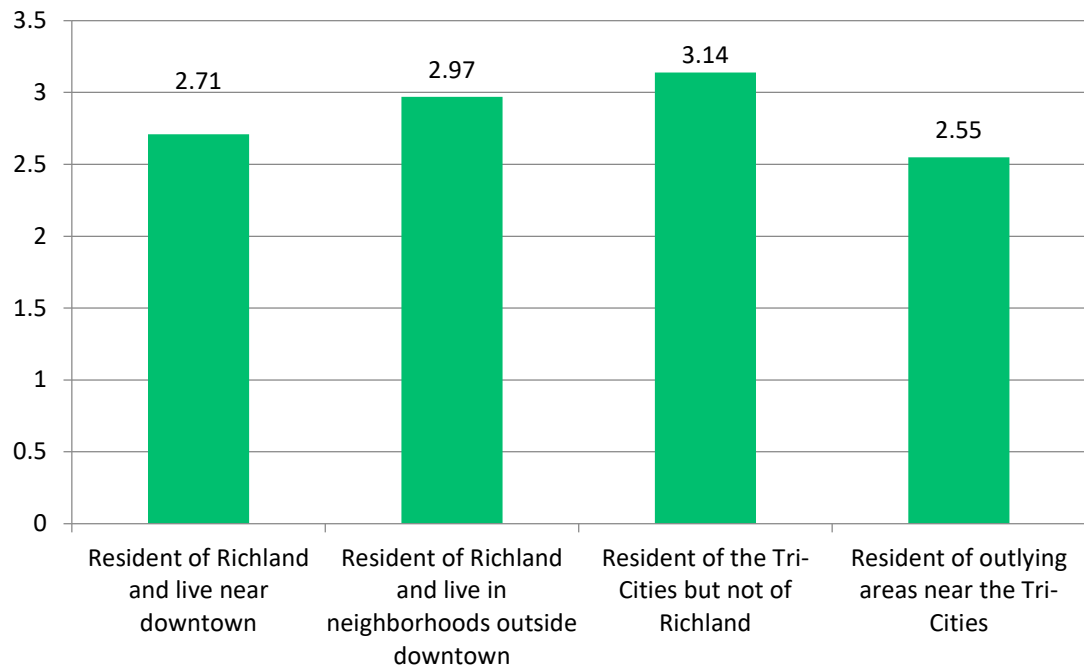
Q4 by Q1: Respondents' priority of pedestrian safety / comfort, by their residential relationship to Richland:



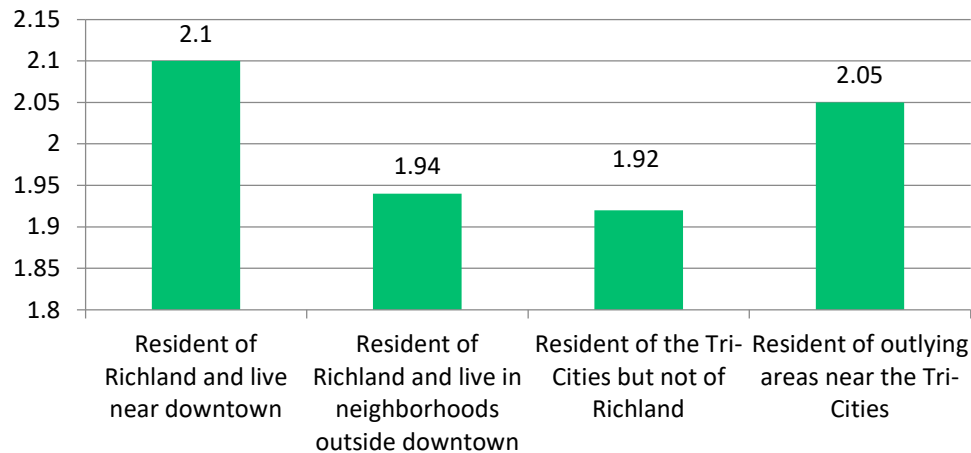
Q4 by Q1: Respodents' prioity of bicycle safety / comfort, by their residential relationship to Richland:



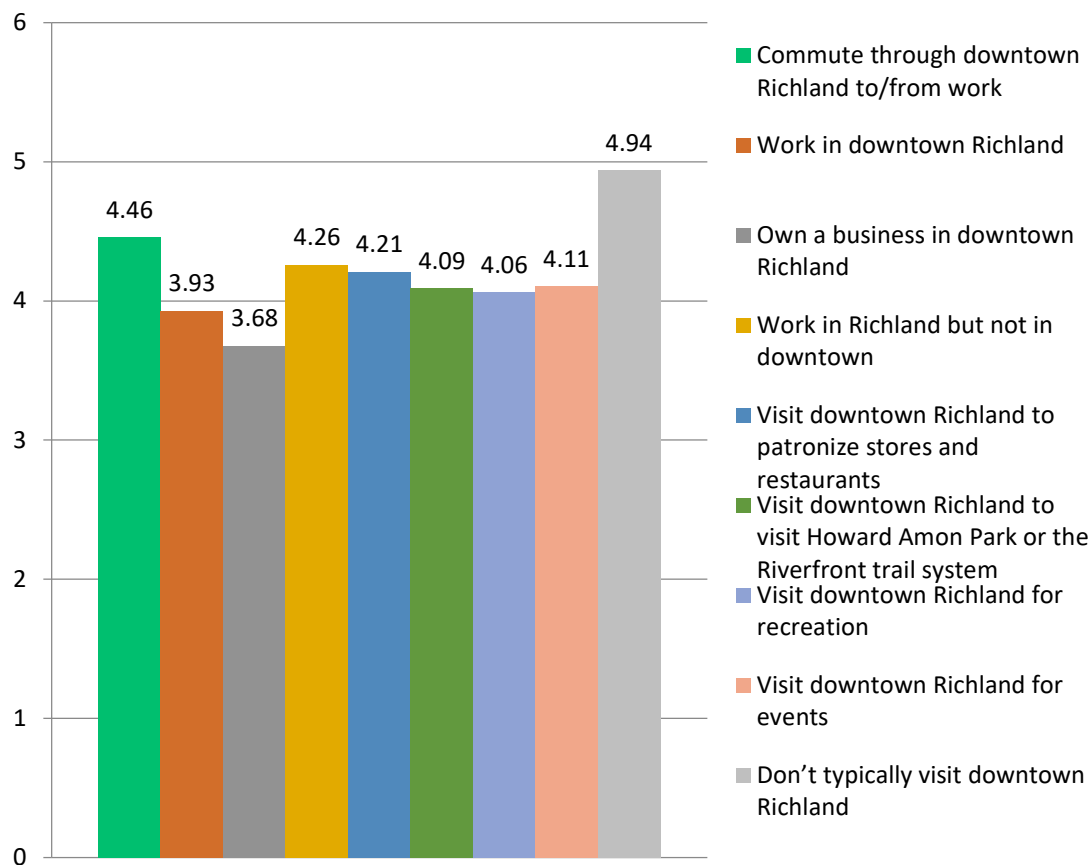
Q4 by Q1: Respondents' priority for convenient parking, by their residential relationship to Richland:



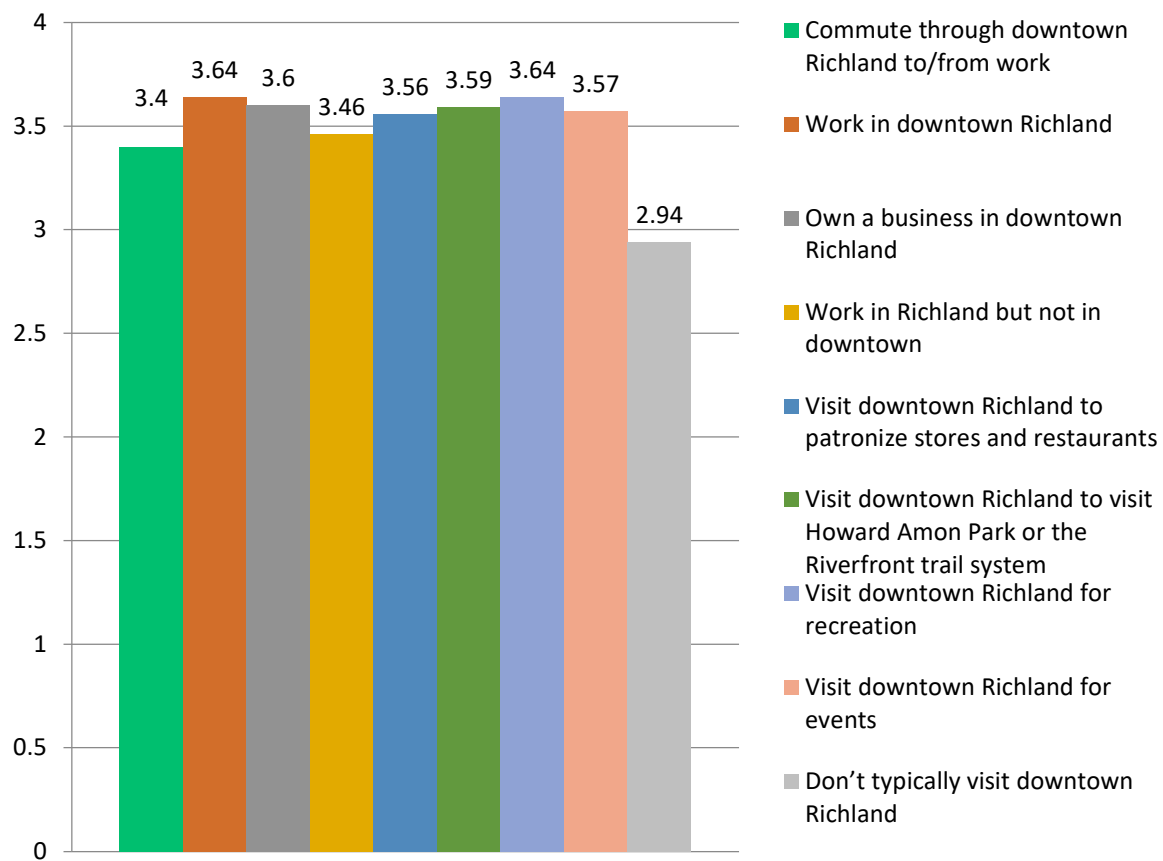
Q4 by Q1: Respondents' priority for amenities such as landscaping, public art, and street furniture, by their residential relationship to Richland:



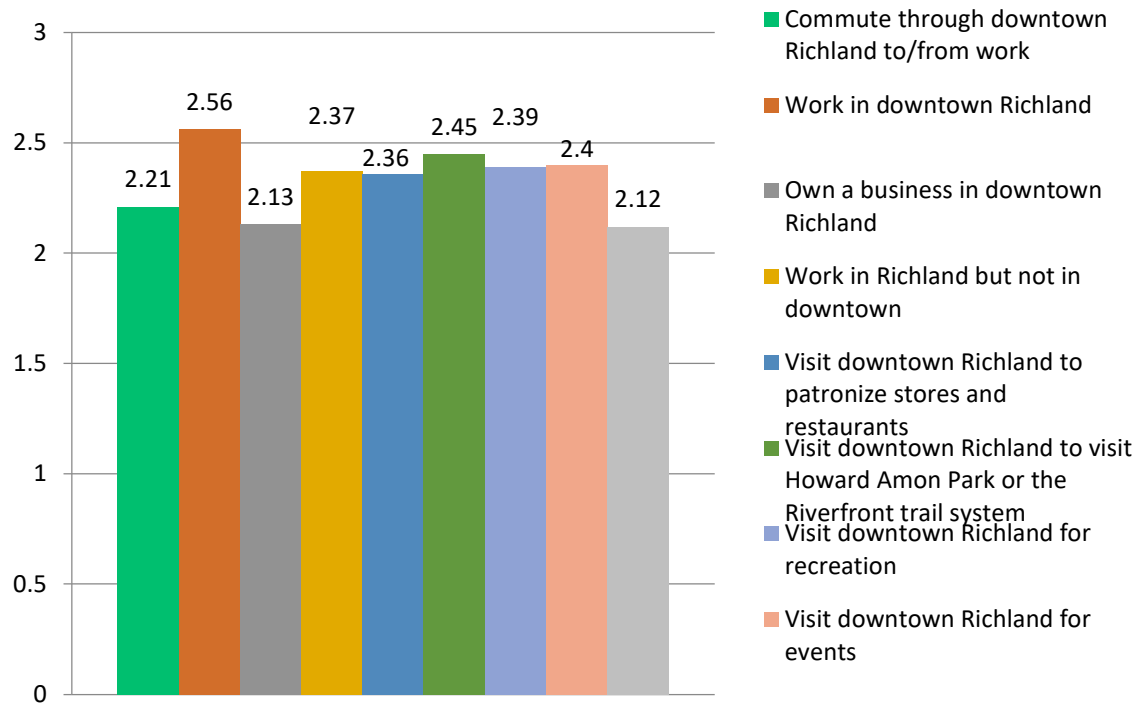
Q4 by Q2: Respondent's priority for efficient vehicle travel, by their type of interaction with downtown:



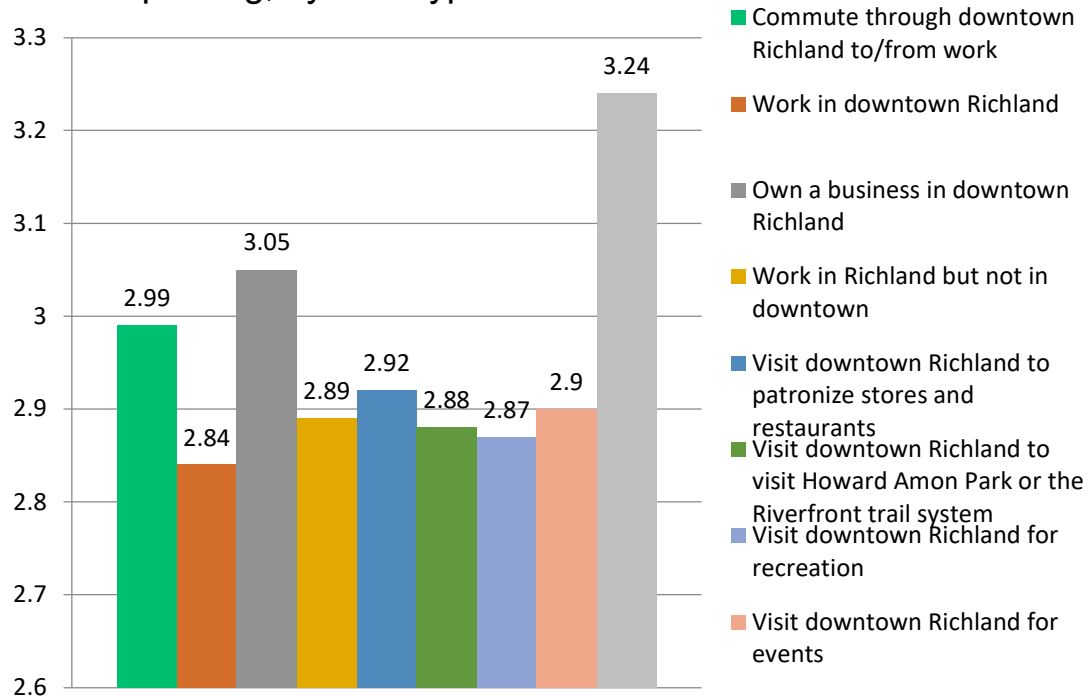
Q4 by Q2: Respondent's priority for pedestrian safety / comfort, by their type of interaction with downtown:



Q 4 by Q2: Respondents' priority for bicycle safety / comfort, by their type of interaction with downtown:



Q 4 by Q2: Respondents' priority for convenient parking, by their type of interaction with downtown:



Survey Themes from Open Ended Questions and Associated Comments

The following themes emerged from survey open-ended questions and open house comment cards.

Comments Related to Downtown -

- In Favor of Couplet
- Couplet Design:
 - Begin couplet further North
 - Congestion downtown
 - Social impacts and effects on low-income populations
 - On-street parking
 - Bicycle and car interaction
 - Ability to adjust to a couplet
- Access to businesses/ public spaces
- Preference for vision of road diet
- Prefer downtown as commuter corridor
- Parking as a priority
- Downtown amenity preferences
- Preference for Jadwin Alternative

Comments on Other Priorities -

- Congestion Concerns:
 - By-pass priority
 - North Richland Bridge
- Funding concerns
- Other Issues
- Additional Suggestions

Details on Themes from Survey and Open House Comments

In favor of couplet – Members of the community shared reasons they were specifically in favor of the couplet option. These included:

- One-ways would help with the flow of traffic.
- Current safety fears as a pedestrian and the belief that the proposed draft improvements would be improve safety.
- Interest in a vibrant downtown and belief that the couplet would be a step in that direction.
- Concern that downtown is becoming an urban heat index. Interest in landscaping improvements to address heat issues.
- For a walkable city where downtown itself is a destination and to foster an increased sense of pride and community.
- Interest to find affordable ways to incrementally work toward the downtown goals before funding is secured.

Couplet Design

- *Begin Couplet Further North* – Suggestions to extend length of couplet segment to better accomplish Study goals. Specific comments included:
 - Extend further north to McMurray Street, Van Giesen or Williams
 - From the bypass in the north to Highway 182 in the south.
- Concern for potential impacts near school zones of initial design.

Congestion within Downtown - Respondents expressed concern that a Couplet would worsen congestion in downtown, specifically in reference to the number of lanes, travel capacity, turn options and turning movements.

Specific downtown congestion related comments:

- Traffic merge back to George Washington Way to exit onto 240 or 182 - fear that the design will result in bottle necks.
- Disagreement that a couplet could move traffic effectively.
- Belief that George Washington Way and Jadwin serve as arterial streets and the purpose should be to serve commuters.
- Potential for failure in the need of an evacuation.
- Traffic issues occur for specific morning and evening hours and should not be a high priority.
- Traffic should be routed away from the downtown area not through it.

Social impacts and effects on low-income populations – Respondents shared further negative impacts that they saw as potential outcomes of the draft recommended couplet design, outside of specific traffic impacts. These included:

- Potential removal of low-income housing (11 comments referenced).
 - Would want to see replacement plan.
 - Noted a constrained rental housing market and lack of low-income options.
- Impacts on bus routes:
 - The 126-bus route – potential impacts on those who live in apartment complexes and have limited mobility.
- Increased use of side-roads resulting in increased congestion and safety concerns in residential neighborhoods and children. (17 comments referenced).
 - Children's safety in crosswalks, Swift to Lee and near Goethals
 - Concern more commuters will use McMurray, Van Giesen, Swift and Duportail.
- Fear that improvements will induce the negative effects of gentrification seen in other Cities
 - Housing affordability
- Increase pressure on cross streets and crosswalks with negative safety impacts
- Property values:
 - Seen as either positive or negative.

On-street Parking – Respondents expressed hesitation over both the effective use and separately, the impacts of on-street parking or other concerns. Comments included:

- Worry about traffic delay caused from on-street parking.
- Concern for safety implications and increased accidents
 - Accidents with through traffic when cars enter and exit parking spots
 - Bicycle and vehicle accidents.
 - Parked cars impediment of vision.
- Generally, against on street parking
 - State that most businesses have ample off-street parking.

Bicycle and car interaction – Commenters voiced concern over potential accidents from bicycle and car interaction and some shared the idea that bicyclists would be safer steered away from main roads. Specific comments included:

- Concern that bicyclists would cause distracted drivers resulting in slowed traffic or accidents.
- A feeling that bicyclists do not want to breathe car exhaust.
- The idea bicyclists are better off away from fast moving vehicles.
 - Bicyclist perspective: Cars as a safety hazard.
 - Car perspective: Bicyclists as a safety hazard; Pedestrians cause delay in car travel.
- Interest for additional measures to ensure that bicyclists obey the rules of the road and/ or that bikes should be permitted similar to cars.
- Concern for bike lane connections and merging to the other areas of downtown outside of the couplet design corridor, particularly on the North end.

Ability to Adjust to a Couplet – Respondents expressed apprehensive for their own or fellow community members ability to adapt to a couplet. Comments noted annoyance, confusion and trouble navigating one-way streets in other cities.

Specific comments included:

- Concern for accidents caused by drivers distracted by navigating a new configuration, particularly for the Tri-Cities' elderly residents.
- Noted that some other cities have recently reversed couplets.
- Concern that a couplet will be an inefficient use of time and gas.
 - Impacts on emergency vehicle or emergency route access.
 - If results increased wear on personal and work vehicles.
 - For eating lunch downtown during the workday.
- View that a couplet limits options for commuters.
 - Fear that a single accident will halt the commute without a pressure relief option.

Access for Businesses and Public Space - Commenters shared that a couplet would complicate access to downtown businesses. Some respondents voiced that they would no longer visit downtown businesses in a couplet scenario.

Specific comments included:

- Opportunistic shoppers would no longer stop during their commute.
- Statements about the cultural of the Tri-Cities as a vehicular-oriented area.
- Preference to drive up to and park directly in front of businesses.
- Couplet viewed as limiting needed growth and viewed as supporting an undesired urbanized city atmosphere.

Preference for Vision of Road Diet Option – Community members also expressed support for the vision of the Study but felt that the Couplet design does not go far enough toward accomplishing such goals. Comments voiced feelings that the needs of Richland residents toward downtown should be prioritized over the needs of commuters and more so, that the Study should take a larger role with transportation options to support lowered dependence on vehicles.

Specific comments included:

- Preference for the Road Diet option
 - Worry that the couplet design will encourage drivers to speed and impact safety.
 - Seen as a better option for downtown businesses.
 - Belief that the road diet is the only alternative that achieves the objective of connectivity, from river to parking and creating a vibrant downtown hub of economic activity.
 - Noted that commuters do not seem to stop at downtown businesses.
 - Conceptually build and design to move people not cars.
- Climate change poses an increased importance to re-examine transportation options and for the role of government to encourage alternative modes outside of the single-occupancy vehicle.
- Statements that Hanford employers should be responsible for commuter needs, not the City of Richland; shared that employers should work toward additional transportation options or encourage employers to allow telework or create localized workstations in town.
- Downtown should be viewed as a destination for residents and not a pass-through highway.

Prefer Downtown as a Commuter Corridor - Comments demonstrate different visions for the future of downtown Richland. Those that expressed disconnect from the prior visioning that led to the Study listed reasons as:

- Interest in increased understanding of a guiding master plan for the downtown area.
- Concern that there are not enough businesses to attract foot traffic to the downtown core.
- View downtown core as hospital and business area.
- Belief that not enough people live within a half mile of Study area resulting in the idea that the Study purpose is not warranted.

- Belief that park attractions and shopping are too far for most citizens to walk.
- A lack of understanding of ways that a couplet could attract businesses or change downtown.
- Disagreement that a couplet would encourage people to walk or bicyclist downtown.
- Concern that downtown Richland lacks the variety of shopping needed to attract more people
- Interest to preserve the small-town feel of Richland.
- The perception that there are not enough bicyclists to warrant inclusion in City planning.
- Concern that the weather in the Tri-Cities is not conducive to walking or biking (either too hot or too cold).
- Belief that the existing riverfront bicycle trail is sufficient for bicyclists.
- Concern that the couplet does not address the East-West connectivity needs to the waterfront and for pedestrians and bicyclists.

Parking as a priority downtown – Outside of on-street parking concerns, community members shared that parking overall in downtown Richland should be included in the downtown discussion. Specific ideas included:

- A parking structure near downtown should be of the greatest concern.
 - Especially for the Parkway.
- Suggestions to address:
 - Federal building parking lot; The vacant restaurant currently across from Sterling's Restaurant; Turn old City Hall into a parking structure.
 - Vacant lot next to Richland Players Theater be purchased for parking for farmers market, to accommodate all the new restaurants and events held at Howard Amon park.
- Curiosity on the ways traffic will access existing parking from one-way streets.
- Concern over where residents in new apartments will park.
- Feeling that those who do not live within walking or bicycling distance are left out of the Study.
- Others stated that downtown Richland as reasonably available parking (2 commenters).

Downtown amenity preferences – Members of the public expressed interest in downtown amenities; for some these served as integral to the couplet and others shared a preference for amenities to be added to the no-build scenario.

Specific comments included:

- Pedestrian safety focus.
 - To make the downtown even more of a place that people will visit, show, and enjoy. More restaurants, shops, and recreation with easy walking and art.
 - For some, pedestrian safety was paramount over the needs of bicyclists.
 - Lowered speed limit.
- Amenities to be included with the couplet scenario (95 comments / 7% of comments overall)
 - Crossings
 - Overhead lights at midblock crossings (HAWK signals)
 - Light-up crosswalks and improved lighting around crosswalks

- Make the road lines distinctly different when approaching a crosswalk.
 - Sidewalks
 - Installation in residential neighborhoods to allow kids to walk to school.
 - Improved maintenance, reference to sidewalks as trip hazards.
 - Wider sidewalks
 - Bike lane buffers -
 - Preferences for bike lane buffers as a safety measure.
 - Against bike lane buffers as a barrier to left turns.
 - Bike parking
 - As a type of public art.
 - Visible – to deter theft, near the library.
 - Lighting – of importance, with balance not to induce light pollution.
 - Extend and widen bicycle paths for young families.
 - Focus on East-West and crossing for bicycles.
 - Concern for the merge of bicyclists when the bike lanes end and overall interface of the improved area with non-improved transition zones near downtown.
 - Trees and landscaping to provide shade.
 - To include space for kids and families on skates, longboards, skateboards and scooters.
 - Outdoor patio seating.
 - Education – bicyclist and vehicle interaction; rules for bicyclists.
 - To ensure improvements are ADA (American Disabilities Act) and elderly accessible.
 - To allow pedestrian to cross when all lights are red.
 - Water fountains for drinking water.
 - Motorcycle parking
 - Charging station
 - Family-style restroom near shopping.
- Amenities to be included with a no-build scenario (34 comments / 3% of comments overall)
 - Install overpass to connect pedestrians and bicyclists from downtown to waterfront (18 comments proposed).
 - Seen as safe for bicyclists and pedestrians while allowing efficient commutes.
 - Useful for school children in the afternoon.
 - Suggested locations: Van Gieson Street; Lee Boulevard.
 - Improve access and widen the existing path along the riverfront (14 comments proposed).
 - Suggestion for Amon Park Way to become exclusively for bicycle and pedestrian travel.
 - Use of separating bicyclists and pedestrians.
 - To make the path more commuter-friendly with increased lighting, snow removal and street changes to increase access to path.
 - Increased maintenance and debris removal from existing bike lanes.
 - Curb additions.
 - City beautification as a standalone improvement.
 - Against public art as seen as a distraction to safe driving.
 - Against trees in the curb as seen as a visibility hazard for drivers.

Preference for Jadwin Alternative – Specific reasons that respondents preferred the Jadwin Alternative presented in the Study:

- Ability to increase traffic flow.
- View the purpose of George Washington Way as access to businesses and parks.
- Seen as means to separated vehicular and bicycle traffic.
- Couplet as second choice if property acquisition is an issue.

Comments on other priorities

Congestion – Overall in the Tri-Cities - Respondents expressed that they saw a need to prioritize addressing congestion in the Tri-Cities overall. Specific congestion concerns included existing issues during summer construction and in winter conditions. These comments illustrated continued community interest in the North-South Travel Capacity Study, a related Study completed a few months prior by the City of Richland and Study partners. As a result of the North-South Travel Capacity Study, the Richland City Council adopted resolution 159-19 on December 3, 2019. This resolution set forth priority facility improvements of a grade-separated interchanges on SR-240 at Aaron Drive, Duportail Street, Van Giesen Street and Jadwin Avenue, and intersection improvements at the intersection of George Washington Way and Aaron Drive. Resolution 159-19 further set that the City will develop plans and strategies to achieve these improvements. This resolution further indicates that respondents concerns over congestion in the Tri-Cities overall are addressed through other means.

Preference for priority on the By-pass and North Richland Bridge – Commenters shared additional priorities presented in other studies by the City, including the North-South Travel Capacity Study. Respondents noted should take precedent over changes to downtown. These were:

- Bridge to Pasco / North Richland Bridge (27 comments / 2% of comments overall)
 - Seen as necessary to relieve traffic on George Washington Way.
 - View Pasco and Kennewick as less accessible by one-way streets.
- Concern that the proposed changes and Study purpose do not consider the needs of North Richland residents
- Changes at George Washington Way and Columbia Point Drive should be considered.
- To address issues at George Washington Way and Aaron Drive.

Funding – Respondents also expressed interest to better understand ways that a Couplet would be funded and implemented. Members of the public voiced that they do not want property tax or other tax increases, particularly the vehicle tab money, to pay for the potential improvements.

Specific comments included:

- Concern for the long-term costs to maintain added green spaces and other improvements.
- Suggestion for a bicycle license fee or tax to pay for the potential improvements.

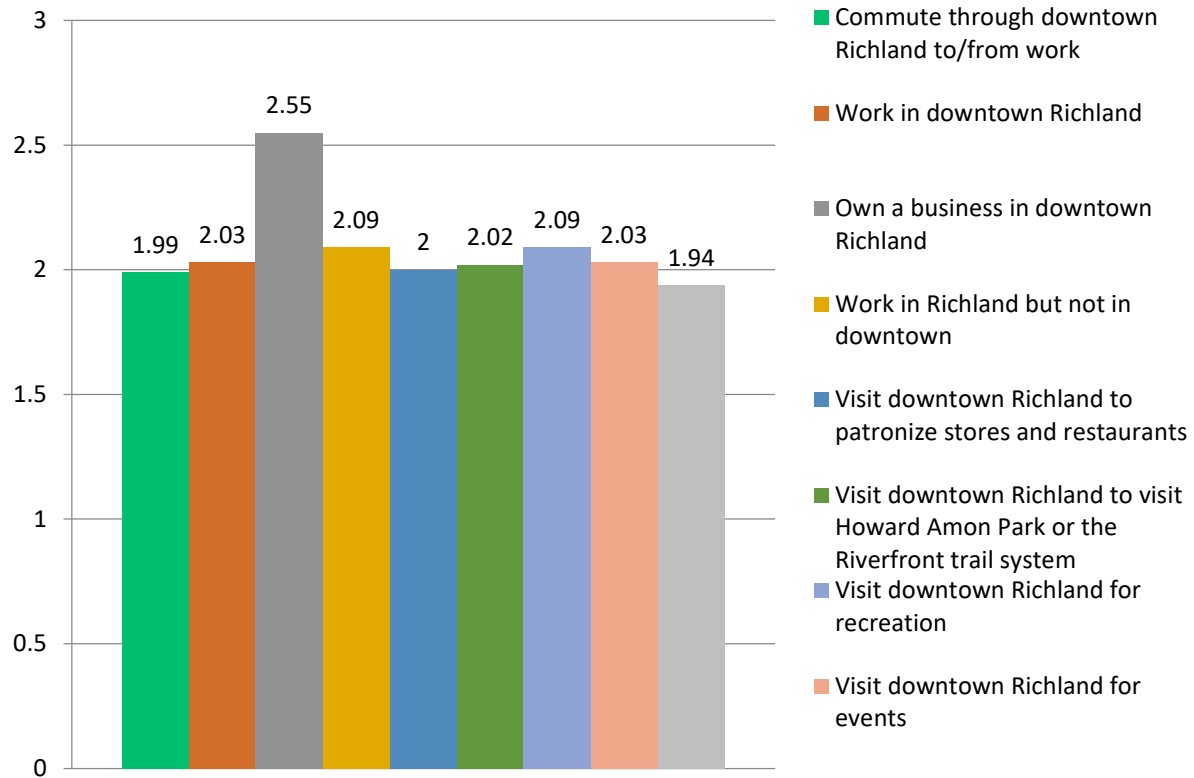
Other issues -

- Safety concerns for the exit to Queensgate off of the freeway.
- Land use – Preference against high density apartments on a busy road.
- Concerns with existing recent City changes to other roadway configurations:
 - Not being able to drive all the way down Lee to Howard Amon Park
 - A portion of Jadwin reduction to one-lane
 - The deletion of through streets (such as Lee Blvd between G-Way and Jadwin)
 - Changes to Lee Blvd, Stevens Drive, Swift Ave and Jadwin Ave.
 - For Swift – Noted as difficult to see the cars coming out of the park lots with changes to the sidewalks.

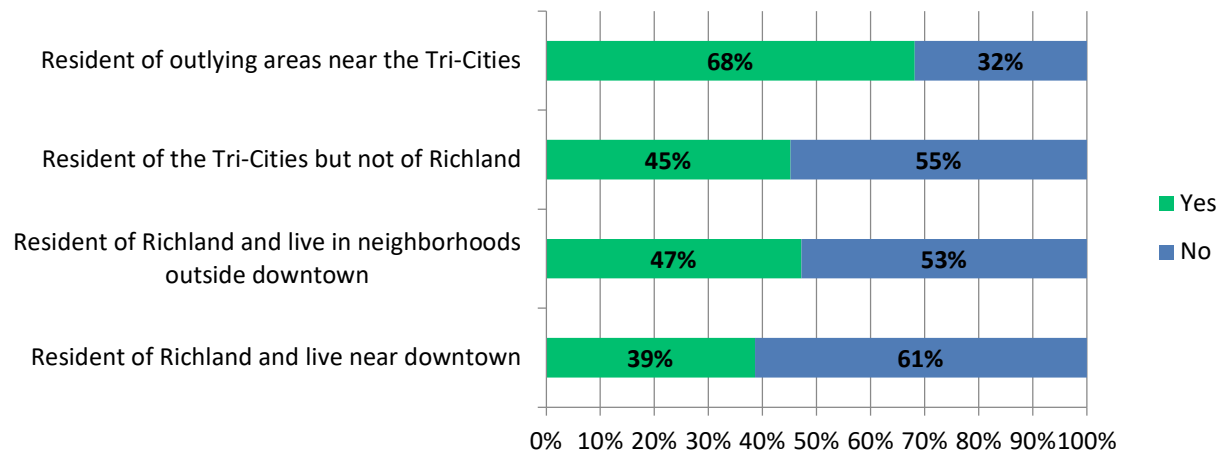
Other suggestions – Respondents offered the following additional suggestions:

- Improve timing of lights on George Washington Way and Jadwin Avenues (19 comments / 1% of comments overall).
- Increase public transportation (18 comments /1% of comments overall).
 - Alternate modes to Hanford; A bus, train, monorail or other mass-transit system to decrease traffic and road wear, increase pedestrian safety, and lowering the smog levels in the Tri-Cities.
 - A tram line with stops at our local businesses could conceivably reduce traffic by a lot and make our downtown area much more walkable.
- Increased enforcement of current traffic and speed limit laws.
- Focus on road quality and maintenance.
- Prioritize revitalization of the Uptown, Torbett and Fred Meyer business areas (12 comments/1% of comments overall).
 - Codes or zoning restrictions to force changes.
- City should take action to encourage people to live downtown.
- To consider future use of electronic bicycles and the fit within the road system.
- Make the traffic lights green going down George Washington Way during peak rush hour.
- Let the center of the city move south & west of the Yakima River.
- No left turns at some intersections.
- Lower the speed limit through this area.
- Additional left turn signal lights on George Washington Way.
- Measures to increase restaurants along the Study corridor.
- Noise control walls along the Jadwin side due to proximity to residential homes.
- Limit the amount of Hanford traffic through town.
- Consider options for future entrepreneurial hubs and community gathering spots.
 - Kendall yards in Spokane given as an example of a successful area.
- Encourage the fire station downtown to move due to that site's preferred use for businesses.
- Improving the beach along the Columbia banks at park sites.
- Bike Park – would be highly utilized by kids; a tarred path multi-circuit racetrack on mounded terrain; scooters, bikes, rollerblades, and skateboards; could be along undeveloped land near the volleyball courts, or closer to the rest area down by the parking lot on River Road.

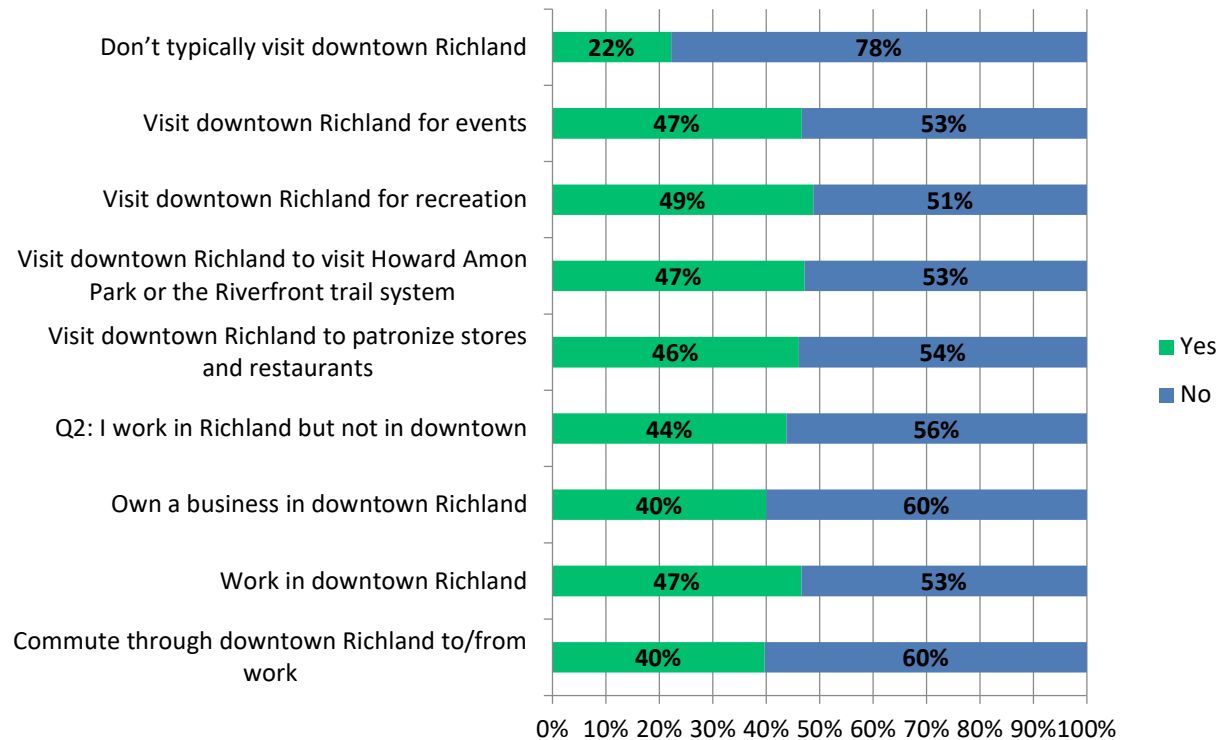
Q4 by Q 2: Respondents' priorities for amenities such as landscaping, public art, and street furniture, by their type of interaction with downtown:



Q5 by Q1: By demographics, respondent support of the consultant team and CAC's work indicating that the One-Way Couplet is the best alternative to meet the dual objectives of improving pedestrian and bicycle accessibility and sustaining vehicular traffic



Q5 by Q 2: By downtown interaction type, respondents' support for the consultant team and CAC's work indicates that the One-Way Couplet is the best alternative to meet the dual objectives of improving pedestrian and bicycle accessibility and sustaining ve



City of Richland: Downtown Connectivity Study

PUBLIC COMMUNICATION LOG

Name	Organization (if applicable)	Date/ Time	Call, Email, Meeting, Event	Email	Phone	Issue or Comment	Response
Randy Bartoshevich		2-Oct	In-person/ email follow-up	randy.bartoshevich@gmail.com		Shared interest to participate in the Study - Uptown BID	Emailed project website and informed would follow-up again when open house and survey details were available.
Micah Pranger Ginger			Phone				
Alison Cable			Call			Interest for the focus of the Study to be "on moving people and not just cars," and to include a criteria on climate change. With the group Alliance for Livable and Sustainable Community With the Mid-Columbia Energy Initiative; Like the idea of one-way streets to encourage a walkable downtown feel; Interest to retain the John Dam Plaza as a community center.	Informed would be noted for consideration.
Jennifer Harper			Call			"Would I'd love to see a more pedestrian and family bicycling friendly Richland."	Emailed project website and informed would follow-up again when open house and survey details were available.
Caroline Blackburn	Richland resident, lives near bypass off Swift	9/19/2019	Email	2caroline.blackburn@gmail.com		Interested in public input opportunities.	
Julie Robertson		10/24/2019	Email	warobertson@charter.net		Saw Downtown related display board at N-S open House and requested more information.	Emailed project website and informed would follow-up again when open house and survey details were available.
Michael Luzzo			Calls			Interest for additional planters on George Washington Way	Informed would be noted
Michael Luzzo			Calls			Concern for effects from WWII planning	Informed would be noted
Suzanne Stap			Call			Against the road diet	Informed would be noted
Bob			Call			See a need for improved sidewalks but overall prefer No Build option	Informed would be noted
Irene Pratt			Call			Don't see people walking in Richland; Prefer No Build option; Concerned for options to park and walk downtown if redesigned to a Couplet	Informed would be noted
Scott Deter			Call			Suggestion to change one-way directions at different times of the day.	Informed would be noted
Diane Goheen			Call			Concern for existing safety and downtown congestion issues, especially from North Richland; Concern for congestion on the By-Pass.	Informed would be noted

Kennewick Resident

Voicemail message

Voicemail message

Voicemail message

Voicemail message

Suggestion for walk and bike
overpas from John Dam
Plaza to Howard Amon Park.
Cited examples in Las Vegas
for foot/ bike traffic over
busy roads with deocrative
structures.

Against the road diet

Against the Couplet option

Concerned about congestion

From: [Michel Luzzo](#)
To: [Caroline Mellor](#)
Subject: Fwd: RICHLANDWA :: P006786-010320
Date: Saturday, January 18, 2020 9:38:32 AM

[External Email]

Ma'am,

This is on a constant running email system...but anyway if I may. Please check your contractor FAR and see if city piping is allowed to be looked at. This might be WW II infrastructure. Lt Col Mathis and BG Groves directed building a city for 50 K people. But are city pipes asbestos containing and lead lined? Re: Atomic Spaces by Peter Bacon Hale

Date: Tue, Jan 14, 2020 at 1:37 PM
Subject: Fwd: RICHLANDWA :: P006786-010320
To: Laurie Williams <laurie.williams@tricityherald.com>

----- Forwarded message -----

From: **Michel Luzzo** <luzzomichel5@gmail.com>
Date: Tue, Jan 14, 2020 at 1:35 PM
Subject: Fwd: RICHLANDWA :: P006786-010320
To: <cmellor@langdongroupinc.com>

Ma'am, this is what I'm looking at for a Jadwin Option in Richland. I called you yesterday about it. Run the bypass highway past a fenceline by Windsong Apartments and bring out Jadwin Ave to Highway 182. Make sure a passed over strip mall is supported. Reference Ruby and Division in Spokane along with Appleway and Sprague for lessons learned. We have to send in traffic and out in Richland over a 2 hour period.

Mike Luzzo
Richland.
509-964-3427

----- Forwarded message -----

From: **Michel Luzzo** <luzzomichel5@gmail.com>
Date: Tue, Jan 14, 2020 at 12:41 AM
Subject: Fwd: RICHLANDWA :: P006786-010320
To: Young-McMurchie, Jill C. (Walla Walla) <Jill.Young-McMurchie@va.gov>

----- Forwarded message -----

From: **Michel Luzzo** <luzzomichel5@gmail.com>

Date: Tue, Jan 7, 2020 at 10:41 PM
Subject: Re: RICHLANDWA :: P006786-010320
To: Reents, Cindy <creents@ci.richland.wa.us>

Talk to Sharon Brown and your Kennewick State Rep. Then rack and stack your options.

On Tue, Jan 7, 2020 at 10:39 PM Michel Luzzo <luzzomichel5@gmail.com> wrote:
It would have saved you getting a easement and getting rid of a storage outfit off of Aaron.
Just a streetlight past the fenceline. Justa thought.

On Tue, Jan 7, 2020 at 5:23 PM Reents, Cindy <creents@ci.richland.wa.us> wrote:

Mike, at this time Cullen isn't on our list and even if it were the Governor has put a hold on funding for public works projects. The Governor's hold is at least until summer.

Cindy Reents

City Manager

City of Richland

509-942-7381

From: Michel Luzzo <luzzomichel5@gmail.com>
Sent: Tuesday, January 7, 2020 5:19 PM
To: Reents, Cindy <creents@ci.richland.wa.us>
Subject: Re: RICHLANDWA :: P006786-010320

Can you justify Safety and Health on Cullen (?) by the Days Inn?

On Tue, Jan 7, 2020 at 5:04 PM Michel Luzzo <luzzomichel5@gmail.com> wrote:

Thanks for the update.

On Tue, Jan 7, 2020 at 11:53 AM Reents, Cindy <creents@ci.richland.wa.us> wrote:

Mike, the Governor put a hold on state funding for public works projects even those that are existing. Let's hope this issue gets cleared up soon.

Cindy

Cindy Reents

City Manager

City of Richland

509-942-7381

From: Michel Luzzo <luzzomichel5@gmail.com>

Sent: Tuesday, January 7, 2020 8:05 AM

To: Reents, Cindy <creents@ci.richland.wa.us>

Subject: Fwd: RICHLANDWA :: P006786-010320

Please widen the road up from River Ridge HS. Run it to the fenceline. With I 976 (?) you can still do a safety addition on a existing project.

----- Forwarded message -----

From: **Michel Luzzo** <luzzomichel5@gmail.com>

Date: Sun, Jan 5, 2020 at 2:29 AM

Subject: Re: RICHLANDWA :: P006786-010320

To: Public Records Center (Richland, WA) <richlandwa@mycusthelp.net>

Thank you. Put another way...you have this in the December 29, 2019 Tri City Herald as a public notice for Thayer Drive. Just the same as if you elect to widen Jadwin (?) by the Days Inn. It would call for Use of Easements.

On Fri, Jan 3, 2020 at 3:56 PM Public Records Center (Richland, WA)

<richlandwa@mycusthelp.net> wrote:

Dear Mr. Luzzo,

Your request has been received and is being processed in accordance with Chapter 42.56 RCW, the Washington State Public Records Act. Your request was received in this office on January 03, 2020 and given the reference number P006786-010320 for tracking purposes.

"The City of Richland is looking at sidewalk easements for 1100 Thayer Drive. What is the cost to do this, how are easements handled an how does affect taxes?"

Your request will be forwarded to the relevant City department(s) to locate the responsive records and to determine the volume and any costs associated with fulfilling your request. You will be contacted about the availability of, and/or provided with, copies of the record(s) requested. PLEASE NOTE: The Washington State Public Records Act does not require the City to create new records, to conduct legal research, or to answer questions.

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed.

City of Richland, WA

To monitor the progress or update this request please log into the [Public Records Center](#).

From: [DNSchelly](#)
To: [Caroline Mellor](#)
Subject: G Way
Date: Thursday, January 16, 2020 9:15:15 PM

[External Email]

Hi,

We like option #4. My family's wish is that the city would please leave George Washington way and Jadwin street alone.

Thanks

Dave and Nora Schelly

From: [Marcie Daines](#)
To: [Caroline Mellor](#)
Subject: Geo. Washington Way Richland WA
Date: Thursday, January 16, 2020 1:57:04 PM

[External Email]

In reply to your suggestions for George Washington Way changes in Richland, WA, I would like to suggest that you use Jadwin Ave as a walking, biking street instead of GWW. It does not go through all the way whereas GWW does. There are many cross streets that people can take to get to the shops along GWW. It also brings them into the parkway there and the Friday Farmer's Market is there. A large parking area is at Jadwin and Lee to accommodate parking out of the way of the traffic along GWW. Leave GWW alone and switch to Jadwin Ave. It goes along the city park as well.

Thank you for your consideration.

Marcie Daines

From: [Mike Schliebe](#)
To: [Caroline Mellor](#)
Subject: Richland Traffic Revision Option
Date: Wednesday, January 15, 2020 9:59:26 AM

[External Email]

Caroline Mellor - In your study to improve traffic conditions through Richland, have you considered a city ordinance/law (and corresponding signage) prohibiting left hand turns on George Washington Way, Jadwin Avenue, and the roads between George Washington Way and Jadwin Avenue to improve traffic flow? To augment a no left turn ordinance, "free" right hand turns at red stop lights could also be implemented to improve traffic flow. I've seen this effectively implemented elsewhere. This option/concept could prevent congestion, free up the turn lanes, and make room for dedicated bike lanes as well.

Regards,

Mike Schliebe
Richland resident
509-528-4547

From: [Michel Luzzo](#)
To: [Caroline Mellor](#); [Reents, Cindy](#)
Subject: Fwd: RICHLANDWA :: P006784-010320
Date: Tuesday, January 14, 2020 7:52:58 PM

[External Email]

Ma'am, I'm adding this to show another route I've tried with the City of Richland. I was looking at Sodium Vapor Lights...by the way. Outdoor lights this can be \$ 27.00 per. By the way, in reference to our other email for Jadwin Ave Project Study I'm giving references....

Try Building Engineering and Systems Design re :Frederick S. Merritt. 1979
For bridges and roads..Standard Specifications for Construction of Roads on Federal Highway Projects (FP 14) 2014

Mike Luzzo

----- Forwarded message -----

From: **Michel Luzzo** <luzzomichel5@gmail.com>
Date: Sun, Jan 5, 2020 at 2:55 AM
Subject: Re: RICHLANDWA :: P006784-010320
To: Public Records Center (Richland, WA) <richlandwa@mycusthelp.net>

On Sun, Jan 5, 2020 at 2:23 AM Michel Luzzo <luzzomichel5@gmail.com> wrote:

I mentioned the Pythagorem for a reason. It mentions how to look at the Inverse Square Law. Simply put...lighting intensity is squared based upon the distance, What is Richlands standard or a RCW for city street lights? Mike Luzzo

On Fri, Jan 3, 2020 at 3:07 PM Public Records Center (Richland, WA) <richlandwa@mycusthelp.net> wrote:

Dear Mr. Luzzo,

Your request has been received and is being processed in accordance with Chapter 42.56 RCW, the Washington State Public Records Act. Your request was received in this office on January 03, 2020 and given the reference number P006784-010320 for tracking purposes.

"The City of Richland is looking at a City Retrofit project plan for streetlight retrofit and pedestrian activated beacons. Nothing in the City ordinances indicates footcandles (fc) for this. Neither is the inverse [intelligible] principle [intelligible] theory mentioned for lighting intensity. I'm not asking just [intelligible] but is it for example 5 (fc) as measured or what?"

Your request will be forwarded to the relevant City department(s) to locate the responsive records and to determine the volume and any costs associated with fulfilling your request. You will be contacted about the availability of, and/or provided with, copies of the record(s) requested. PLEASE NOTE: The Washington State Public Records Act does not require the City to create new records, to conduct legal research, or to answer questions.

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed.

City of Richland, WA

To monitor the progress or update this request please log into the [Public Records Center](#).

From: [Amy Vaagen](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Tuesday, January 14, 2020 12:46:57 PM

[External Email]

Hello,

Thank you for taking the time to read my email. I am a resident of what is typically referred to as the downtown Richland district. It is my opinion that our section of the city of Richland would be irreparably damaged by any design meant to ease commuter concerns. I strongly believe that we will benefit much more from making the by-pass repairs to 240 that would allow constant traffic flow as outlined in the study done there. Any option that creates one way traffic will be in the interest of the commuter not those frequenting businesses in our area. We have the TriCities best riverfront recreation area and are making great strides to be a wonderful downtown; let's not make a decision on traffic flow that would diminish these assets for our beautiful Atomic City.

Thank you for your consideration,

Amy Vaagen
307 Delafield Ave.
Richland

Sent from my iPhone

From: [Scott Dietert](#)
To: [Caroline Mellor](#)
Subject: TRICITY HERALD ARTICLE: 01-13-2020
Date: Tuesday, January 14, 2020 6:19:10 AM

[External Email]

Good afternoon, Caroline,
My wife and I have discussed the newspaper article listed above. One suggestion not present in the four alternatives is as follows:

Create two temporary one-way directions as follows:

1.From 5:00am until 8:00am [on Monday through Friday] GW WAY would be only one-way NORTH to assist morning workers driving north to their jobs at PNNL [Pacific Northwest National Laboratory];

2.From 3:00pm until 6:00 pm [Monday through Friday] GW WAY would be only one-way SOUTH to assist the same afternoon workers driving home from their place of work.

This could be tried for one month to six months to evaluate the traffic effect; it could be changed or discontinued as needed. Even as a short term solution this change in direction could be tried in a "traffic driving experiment".

Sincerely, Scott Dietert; phone 375-1767; email scottdietert1936@gmail.com

74 Newcomer Street
Richland, WA 99354
January 13, 2020

rslovic@gmail.com
509-420-4756

COMMENT – GEORGE WASHINGTON WAY STUDY

The Langdon Group
Caroline Mellor
cmellor@langdongroupinc.com

Hi Caroline,

As a pedestrian, I am terrified walking on George Washington Way. Traffic flies at 35+ mph down that road only feet from walkers. This has to change if we want a downtown that attracts diners and shoppers. I recommend that Ocean Highway in Myrtle Beach, SC serve as a model for GWay. That road, formerly 4 lanes carrying just as much traffic as GWay and separating the ocean from the rest of the city, had a road diet. It now has 2 lanes and a turn lane plus numerous pedestrian resting spots in the middle. The speed limit is 25 miles per hour. Traffic wishing to travel faster can take the by-pass highway. See attached.

While traffic was slowed along the north portion of GWay for resurfacing, I was campaigning for Richland City Council and I stood on the road with my sign wishing for a slowdown. The slowdown did occur for about 15 minutes and then traffic moved along as usual (darn 😊). I live about 2 doors from Davison a parallel road and I did not notice a significant number of cars using that detour. Likely, it did not save much time.

I support a road diet of GWay, slower speeds and bike lanes.

Thank you,
Randy Slovic

From: [Whittier, Adam James](#)
To: [Caroline Mellor](#)
Subject: GW Way Improvements
Date: Monday, January 13, 2020 9:12:12 PM

[External Email]

Dear Ms. Mellor,

I was very interested to read the article in the Tri-City Herald today, titled “Richland looks at making George Washington Way and Jadwin one-way streets.” I have lived in Richland for five years near the intersection of Swift Boulevard and the Bypass Highway, and will soon be moving to Saint Street, on the west side of George Washington Way. As someone who cares about the city’s long-term livability, I wanted to weigh in on the option that I see as the most beneficial.

I strongly favor the option to narrow George Washington Way to three lanes. There are several advantages to this:

1. Fewer lanes will discourage through-traffic, especially if combined with a reduced speed limit.
2. The space gained will benefit pedestrians, cyclists, and handicapped people, and also give room to parking.
3. Fewer lanes will make the road “feel” less like a thoroughfare and more like a town street, and drivers will adapt their speed and driving styles accordingly.

This last point is also the main reason that the other two options won’t solve the problem. If changed to one-way, both GW Way and Jadwin will read as big streets for driving fast. Drivers will not be paying as much attention because they’ll expect everyone else to be going the same direction, as on a highway. Widening Jadwin would only transpose GW Way’s issues onto another street, which isn’t fair to people who live and work there.

In my experience, more room to accommodate traffic only encourages more traffic in that area. It’s sort of like buying a larger home if you have too much stuff – eventually, you’ll just get more stuff, and feel just as crowded, because you thought there was surplus space. If there are too many cars headed to Hanford for GW Way and the Bypass to handle, then we need to look at alternative methods. A bus, train, or other mass-transit system would go a long way toward decreasing traffic and road wear, increasing pedestrian safety, and lowering the smog levels in the Tri-Cities (an issue that people forget about, but one that’s especially serious during fire season, or whenever there is an inversion).

Thank you for working to make Richland a better place!

Best,
Adam

Adam Whittier
Comics & Illustration
www.adamwhittier.com

From: [Kelly](#)
To: [Caroline Mellor](#)
Subject: George Washington Way
Date: Monday, January 13, 2020 8:54:23 PM

[External Email]

Making any changes to George Washington Way for biking is a bad idea. I am a cyclist and have been biking my entire life. There is a beautiful river trail for biking that runs parallel to George Washington along the river. Anyone that wants to bike can use that trail. No changes are necessary. The bike trail is only 1 block in from George Washington (a few blocks in once you start heading further north) Why would anyone want to bike on George Washington breathing in all the car fumes instead of taking the beautiful trail along the river that runs parallel to it? Making changes to George Washington/ Jadwin for biking is right up there with tearing down the dams. Rising crosswalks would however not be a bad idea for pedestrians with the amount of traffic volume in that area daily and the society that we currently live in with those who don't even pull over for ambulances.

From: [Scott Dietert](#)
To: [Caroline Mellor](#)
Date: Monday, January 13, 2020 4:20:23 PM

[External Email]

Good afternoon, Caroline,
My wife and I have discussed the newspaper article listed above. One suggestion not present in the four alternatives is as follows:

Create two temporary one-way directions as follows:

1.From 5:00am until 8:00am [on Monday through Friday] GW WAY would be only one-way NORTH to assist morning workers driving north to their jobs at PNNL [Pacific Northwest National Laboratory];

2.From 3:00pm until 6:00 pm [Monday through Friday] GW WAY would be only one-way SOUTH to assist the same afternoon workers driving home from their place of work.

This could be tried for one month to six months to evaluate the traffic effect; it could be changed or discontinued as needed. Even as a short term solution this change in direction could be tried in a "traffic driving experiment".

Trying again; i am sorry; i read and even said to you: long, when it should be langdongroupinc.com

Sincerely, Scott Dietert; phone 375-1767; email scottdietert1936@gmail.com

From: dluzzogilmour@gmail.com
To: [Caroline Mellor](#)
Subject: Downtown Richland
Date: Monday, January 13, 2020 12:30:18 PM

[External Email]

Hello,

I would like to express my 100% approval of option 3 of the George Washington Way study.

Slowing and narrowing of the street.

Dori Luzzo Gilmour
509.366.9706

From: [Jeffrey Markillie](#)
To: [Caroline Mellor](#)
Subject: George Washington Way project
Date: Monday, January 13, 2020 4:08:39 AM

[External Email]

Good morning

Please add my name to the list of people interested in the George Washington Way project described in today's Herald.

Thanks

Jeff Markillie
509.308.2234

Sent from my iPhone

From: [Bryant Kuechle](#)
To: [laila ghan](#); [Caroline Mellor](#)
Cc: [Rogalsky, Pete](#); [Spencer Montgomery](#)
Subject: Re: Richland Downtown Connectivity Study Community Advisory Committee Meeting #1
Date: Wednesday, October 9, 2019 7:01:56 AM
Attachments: [image003.png](#)
[image002.png](#)

Laila – Thank you for this input, this is informative and insightful. It might be helpful if I explain our process a little better. We may not have done an adequate job with this at the first meeting.

The objective for our first meeting was to discuss all potential alternatives (including the road diet), using those identified in the stakeholder meetings as a starting place. We also wanted to identify all the potential criteria that will be used to evaluate alternatives. The language of these are still being fleshed out but I can tell you from our preliminary list, only one of 10 focused on north-south vehicle movement.

No prioritization or decision making has been made regarding the alternatives or criteria. Next week we will gather more input from the business community on the potential alternatives at three scheduled workshops. We will share their feedback with the CAC on the 17th. Also, on the 17th we will facilitate an exercise to weight the criteria by which the alternatives will be evaluated. This is an opportunity for members of the CAC to add greater significance to the criteria you value most.

I hope this helps explain our process. We are still in the early stages of this study and want to be sure the steps we take are fair and considers everyone's unique perspectives and interests. Feel free to call if you would like to discuss further (208-739-3048).

Thank you,

Bryant

From: laila ghan <lailaheather@hotmail.com>
Sent: Tuesday, October 8, 2019 11:04 PM
To: Bryant Kuechle <bk@langdongroupinc.com>; Caroline Mellor <cmellor@langdongroupinc.com>
Cc: Rogalsky, Pete <PRogalsky@CI.RICHLAND.WA.US>
Subject: RE: Richland Downtown Connectivity Study Community Advisory Committee Meeting #1

[External Email]

Thank you for inviting me to participate in this discussion. I love Richland and hope the best for my town.

At our meeting I was somewhat confused about our objective. I had the impression that connectivity meant the connectivity of our neighborhoods, downtown, and river. The east west routes that connect people to the downtown and the river are challenged by streets that are designed for north south car traffic during peak commute hours. I was also surprised that the language that was used often during our meeting was so focused on moving cars and not moving people, a subtle but important distinction. The meeting itself seemed to prioritize north south car commuter traffic convenience over east west connectivity and more active transportation methods like walking and biking. The convenience and safety of people who use active transportation does not seem to be a priority.

Neither option presented at the meeting is ideal from a perspective of healthy transportation safety. The One Way Couplet option ignores that pedestrian crossings on multilane roads and free Left and Right turns are very dangerous. It would take very aggressive traffic calming measures to keep non peak flow traffic driving at speeds that are safe for people. The Jadwin Diversion option ignores that a six lane road would sever our neighborhoods and half of our downtown from the river side of downtown and the river. The wider distance between the sidewalks would make crossing this street much more dangerous. Three lanes in each direction would feel like a highway to car drivers, and at non peak traffic times, they would take it at highway speeds. The RPD is not staffed to enforce this design. The cheapest way to keep people from speeding is to design streets that don't encourage people to speed. Also, neither option incentivizes healthy transportation. In order to have successful walkability and bikeability, city streets need to be narrow, have wide sidewalks, street trees and furniture, corner bulb-outs, traffic speed limits of 20-25mph, protected bicycle lanes, and frequent signaled crossings.

I would like safety addressed in detail with each of the proposed suggestions (including no changes at all). As it exists, many people have been hit by car drivers in our downtown, both on Jadwin and George Washington Blvd. The City of Richland and Washington state are publicly committed to Target Zero. In order to achieve this life-saving goal, our transportation decisions must prioritize the safety of "soft traffic" over the convenience of single-occupancy vehicles.

During the meeting I suggested a fourth option, the three lane "road diet" on both Jadwin and GW. This option has not been entertained, and was shot down as soon as I suggested it. I suspect this may be because there is an assumption that a road diet would not be appropriate for such a busy street. However that is not necessarily the case. Elsewhere in the country and world, streets with even more traffic than GW (23,000 and 26,000 cars a day to compared to 20,000 on GW) have successfully been put on road diets. We should be open to exploring this type of solution here too.

We know that we cannot decongest peak flow traffic long term. Looking ahead at projected growth, we know that we will be challenged with an increase in the number of people traveling north south through our city. We also know that the more lanes we build, the more people will choose to drive single occupancy vehicles. Induced demand has demonstrated that we cannot focus on adding capacity to move peak flow SOV traffic through intersections. Wider roads will temporarily improve commute times for people in cars, but will permanently eliminate options for healthy transportation. Any truly effective, long-run transportation strategy must include and prioritize transit and healthy transportation options.

We have a responsibility to provide transportation options to the people who patronize our downtown the most, the people who surround it. Our downtown is surrounded by medium density and high density residential. The neighborhoods of central Richland are mixed income, and many of the residents do not drive. Most of the trips these residents make are within 2 miles of their homes. When given the infrastructure, we have seen that up to 40% of these trips will be made by foot or bicycle. Walkability is also a huge influencer of property value. Improving walkability would be highly beneficial for the businesses in our downtown as well as the homes.

I request that the study prioritize active transportation safety and convenience over single

occupancy vehicle convenience. I request that the option of a road diet be explored. We know the formula for a vibrant, walkable downtown and active transportation. Our goal needs to shift from incentivizing long distance commuting by single occupancy private auto to active transportation and transit. Please put the needs of people going TO Richland before the needs of people going THROUGH Richland.

See you again on the 17th.

https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch3.cfm?fbclid=IwAR3pZ_gCk8CHhVNEtVi5S5G_CU-3DlAlP1XNTL1N4mX8eBHW795_JWLy1GY#s335
https://nacto.org/docs/usdg/road_diets_fixing_big_roads_burden.pdf

Sincerely,

Laila Krowiak

Richland Resident of 30yrs, mother of two, and RN

Sent from [Mail](#) for Windows 10

From: Bryant Kuechle <bk@langdongroupinc.com>

Sent: Friday, September 27, 2019 12:03:02 PM

To: West, Julie <jwest@ci.richland.wa.us>; jdeskins@CI.RICHLAND.WA.US <jdeskins@CI.RICHLAND.WA.US>; Rogalsky, Pete <PRogalsky@CI.RICHLAND.WA.US>; kjensen@ci.richland.wa.us <kjensen@ci.richland.wa.us>; laila ghan <lailaheather@hotmail.com>; kyle@windermere.com <kyle@windermere.com>; james.buelt.rpr@gmail.com <james.buelt.rpr@gmail.com>; colin2205b@gmail.com <colin2205b@gmail.com>; bmbSilver@gmail.com <bmbSilver@gmail.com>; bbarlow@bft.org <bbarlow@bft.org>; ches@consultfaircape.com <ches@consultfaircape.com>; Karen.blasdel@pnnl.gov <Karen.blasdel@pnnl.gov>; mjpaoli@energy-northwest.com <mjpaoli@energy-northwest.com>; oldoctopus@hotmail.com <oldoctopus@hotmail.com>; greenielife@gmail.com <greenielife@gmail.com>; roger@rgwenterprises.com <roger@rgwenterprises.com>; Rocco@fusespc.com <Rocco@fusespc.com>; brett@gravislaw.com <brett@gravislaw.com>; re.kristin@gmail.com <re.kristin@gmail.com>; jtaylor@ci.richland.wa.us <jtaylor@ci.richland.wa.us>; Cynthia.Eskeli@rsd.edu <Cynthia.Eskeli@rsd.edu>; ssillers@yahoo.com <ssillers@yahoo.com>; zac.carter@ignitehotels.com <zac.carter@ignitehotels.com>; spatthecatt@aol.com <spatthecatt@aol.com>; John Crook <jcrook@stayparagon.com>; jeffery.bird@rl.doe.gov <jeffery.bird@rl.doe.gov>; kirk.harper@kadlec.org <kirk.harper@kadlec.org>; bdexter@columbiabasin.edu <bdexter@columbiabasin.edu>; john.mancinelli@wsu.edu <john.mancinelli@wsu.edu>; Lori.Mattson@tricityregionalchamber.com <Lori.Mattson@tricityregionalchamber.com>; michael@VisitTri-Cities.com <michael@VisitTri-Cities.com>; Spencer Montgomery <smontgomery@JUB.com>; deanne.pilkenton@wsu.edu <deanne.pilkenton@wsu.edu>; Tia Schleiger <tschleiger@jub.com>; Ben Hoppe <bhoppe@jub.com>; Haynes, Sandra D <sandra.haynes@wsu.edu>; jamesawise@me.com <jamesawise@me.com>

Subject: Richland Downtown Connectivity Study Community Advisory Committee Meeting #1

We are looking forward to you see you Tuesday at the Richland Downtown Connectivity Study CAC

meeting:

1-4 PM

Richland City's Shops Room 110, 2700 Duportail Street, Richland

I know some of you are unable to make it. There will be future opportunities to stay involved in this study and please feel free to share any input or feedback you have with Caroline (cc'd) and myself.

Attached for your review are the agenda and summary report from our stakeholder assessment. The report will provide some insight into the input gathered through this preliminary public involvement effort and help prepare you for the discussion on Tuesday.

Thank you for your interest in participating in this important study,

Bryant

Bryant J. Kuechle

Senior Project Manager/Northwest Area Manager



The Langdon Group, Celebrating 20 Years of Engagement

250 S Beechwood Ave. Boise, Idaho 83709

e bk@langdongroupinc.com w www.langdongroupinc.com

p 800 252 8929 c 208 739 3048



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From: [Joel Rogo](#)
To: [Caroline Mellor](#)
Subject: Re: Downtown Connectivity Study
Date: Saturday, October 5, 2019 12:26:34 PM
Attachments: [image001.png](#)

[External Email]

Thank you. I'll be looking for the email.

Joel

On 10/2/2019 9:07 PM, Caroline Mellor wrote:

Hi Joel,

Thank you for reaching out. The Downtown Connectivity Study is in an earlier stage than the North-South Transportation Study. We just had the first advisory committee meeting for the Downtown Study this past Tuesday. We are in the process of writing the summary for that meeting. We will have the first advisory committee meeting summary and stakeholder summary up on the project page in the coming weeks. I'd be happy to send you an email to let you know when that page is updated.

Please feel free to reach out again if any other questions arise.

Best,

CAROLINE MELLOR
Project Associate



7825 N Meadowlark Way, Coeur d'Alene, ID 83815
e cmellor@langdongroupinc.com w www.langdongroupinc.com
p 208 762 8787 c 208 484 9592

-----Original Message-----

From: Joel Rogo <joel@tricitieacademy.com>
Sent: Wednesday, October 2, 2019 6:14 PM
To: Caroline Mellor <cmellor@langdongroupinc.com>
Subject: Downtown Connectivity Study

[External Email]

Ms. Mellor,

I was looking on the city web page for any summaries of meetings of the Downtown Connectivity Study as there are for the Regional North-South Traffic Capacity Study. I was unable to find anything. If there are summaries, I would like to know where I may obtain copies.

Joel Rogo

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From: [Francesca Maier](#)
To: [Caroline Mellor](#)
Subject: Autonomous Vehicles
Date: Tuesday, October 1, 2019 8:20:22 PM
Attachments: [20190926_AVEEXEC_Pres.pdf](#)

[External Email]

Hi Caroline,

I caught snippets of your AV conversation (enough to hear that's what you were talking about). I've been working with WSDOT on AV policy for the past year and lead the group developing a policy framework. If you're interested in the topic, you can join one of the subcommittees on the working group. It's an all-volunteer effort and inclusion is by opt-in. <https://wstc.wa.gov/Meetings/AVAgenda/AutonomousVehicleWorkGroup.html> I am on the Infrastructure & Systems subcommittee and am interested in the newly-formed Health & Equity subcommittee.

I've attached last week's presentation to the executive committee, which was a biannual update on the activities of all the subcommittees.

Ches

--

Francesca Maier, PE (KY, IN)
ches@consultfaircape.com
443-208-8386

<http://www.consultfaircape.com>

Fair Cape Consulting LLC is a certified DBE in Washington State (#D2F0025196) and Utah.

From: [Francesca Maier](#)
To: [Caroline Mellor](#)
Subject: Photos/videos from Swift & GWay
Date: Wednesday, September 25, 2019 8:09:31 AM

[External Email]

Hi Caroline,

I did the annual bike count yesterday at Swift & GWay (at the fire station). This is the end of our Complete Street/gateway to the river. Swift connects Marcus Whitman elementary, Christ the King elementary/middle, Richland high, and the library to the river.

One cyclist ride through the intersection and a handful of pedestrians walked through. All but two had their right of way taken by vehicles running red lights out turning right on red, failing to yield to the pedestrians in the crosswalk. All within sight of the police station. This lack of enforcement puts people at risk. There's an automated count station literally on the other side of the fire station that counts hundreds of cyclists and pedestrians daily.

I've attached photos and I'll put the videos on Drive for you once I've got the kids off to school.

I heard that you're considering a one-way couplet for downtown. I hope it's the "New Urbanism" version with 25mph speeds, wide sidewalks, and on-street parking. I can see how this would reduce conflicts and create a very walkable/bikeable corridor on the off-peak side. Two-way protected bike lanes would be key to creating a vibrant corridor. As would enforcement of speed, parking, red light, and failure to yield violations. Preferably with cameras.

Warmly,
Ches

--

Francesca Maier, PE (KY, IN)

ches@consultfaircape.com

443-208-8386

<http://www.consultfaircape.com>

Fair Cape Consulting LLC is a certified DBE in Washington State (#D2F0025196) and Utah.

From: [Randy Slovic](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Thursday, September 19, 2019 10:15:22 PM

[External Email]

Hi Caroline,

I understand you are leading the Connectivity study.

I believe the key to have a real downtown in Richland is finally getting some control of traffic on GWay. This summer I was in Myrtle Beach, SC for the first time in several years. Ocean Highway, Business Highway 17, according to SCDOT, carried as many as 54,000 cars in some places even though there was a bypass. With 4 lanes of traffic it separated the ocean from the city. This year I saw the road diet. Now there are two bike lanes and 2 lanes of traffic. Turn lanes and pedestrian islands are in the middle. The speed limit is 25 but it is difficult to go that fast. Traffic was moving along. I suspect that people took the beach route instead of the bypass because it was more interesting. It still is, just slower. There were many bikers because the bike lanes are wide and the traffic is slow. A road diet on GWay would dramatically change the whole town. I think it should be considered.

Thanks,

Randy Slovic

74 Newcomer Street

Richland, Washington 99354.

Sent from my iPad

From: [James Wise](#)
To: [Caroline Mellor](#)
Cc: [Alison Cable](#); [Laila Krowiak](#)
Subject: Followup to our Phone Conference
Date: Wednesday, September 18, 2019 9:54:13 AM

[External Email]

Dear Caroline,

First off: Here is Jennifer Harper's email at Energy Northwest <jlharper@energy-northwest.com>. Jennifer is the Chair of the Transportation Subcommittee of the MCEI (Mid-Columbia Energy Initiative), which may have some info or intersecting interests and expertise for your Richland Connectivity Study. Please use my name when you reach out to her, as she knows me from the MCEI meetings.

And here is the website of Active Living Research <<https://activelivingresearch.org>>, where you may find some studies relevant for your efforts. There is an Active Living Resources for Transportation link <<https://activelivingresearch.org/taxonomy/transportation>>, which takes you to a page where you can download a "Transportation Related Resources Sheet" that contains further topics. Some of these may start off at an elementary level, but could link to more useful studies if you dig a little.

And, you're probably thinking right now about the old saying in Planning that there's no problem so complicated that if you don't bring some citizen groups into help, it can't be made more complicated (!).

We in the ALSC will try not to make that a reality for you. We want to see you have a very successful study with the best results for the City of Richland where many of our members live. And we will do everything we can to assist you as you proceed.

With the appreciation for this opportunity, from myself and the ALSC,

Jim

James A. Wise, Ph.D.

President, Alliance for a Livable and Sustainable Community

2432 Tiger Lane, Richland WA 99352
mobile: 509.578.9104

From: [Molly Petersen](#)
To: [Caroline Mellor](#)
Subject: Re: Downtown Connectivity Study
Date: Thursday, September 5, 2019 6:56:54 PM

[External Email]

Hi Caroline,
I wanted to follow up and make my opinion known on one part of our conversation.

You asked me if I'd support Jadwin and George Washington Way becoming one-way roads. At the time, I hadn't explored that suggestion and was unsure. Since then, I've done research that's put me firmly in the "no" camp for any one-way streets in Richland.

Research shows that one way streets are the opposite of traffic calming, and therefore the opposite of our walkability goals. One-ways encourage faster speeds and three-lane roads are dangerous for pedestrians to cross. Also, they're proven to be a strong deterrent to visiting local businesses.

Thanks for your efforts!

Molly Petersen

On Aug 5, 2019, at 1:13 PM, Caroline Mellor <cmellor@langdongroupinc.com> wrote:

Hi Molly,

Thank you again for your time today on the phone. I appreciated the opportunity to hear from your experiences as a Richland resident. I will be in touch to when we have information on our next steps, to include a public survey and open house. I've also attached the project overview flyer.

Please feel free to reach out again if any other ideas or concerns come to mind.

CAROLINE MELLOR
Project Associate

<image001.png>

7825 N Meadowlark Way, Coeur d'Alene, ID 83815
e cmellor@langdongroupinc.com w www.langdongroupinc.com
p 208 762 8787 c 208 484 9592

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From: [Caroline Mellor](#)
To: [Alison Cable](#)
Subject: RE: Richland Connectivity Study
Date: Tuesday, September 10, 2019 5:34:00 PM
Attachments: [image001.png](#)

Hi Alison,

Thank you for this message. I appreciate your reaching out. We are still in the early phases of the Study. We will have an interactive open house and a public survey, however, are still working out the details and dates for both. The Open House will occur later in the Fall, likely closer to or in December.

We don't have a listserv set-up, but I am collecting emails to send out details on the open house and survey when we have that information. We would very much appreciate your assistance in making sure the broader community is aware of the Study and is able to make informed comment.

I'm happy to talk more over the phone about your organization and our processes for the Downtown Connectivity Study. If that would be useful, we can set-up a time.

If you would like to talk more, please let me know which times work for you and I'll send a calendar invite. If none of these times work for you, I'll offer additional options.

- Thursday the 12th – Between 8-10am or between 1-5pm
- Monday the 16th – 10am or after
- Tuesday the 17th – Between 11am – 3pm
- Thursday the 19th – Anytime

Best,

CAROLINE MELLOR
Project Associate



7825 N Meadowlark Way, Coeur d'Alene, ID 83815
e cmellor@langdongroupinc.com *w* www.langdongroupinc.com
p 208 762 8787 *c* 208 484 9592

From: Alison Cable <alison@futurewise.org>
Sent: Tuesday, September 3, 2019 2:18 PM
To: Caroline Mellor <cmellor@langdongroupinc.com>
Subject: Richland Connectivity Study

[External Email]

Hi Caroline,

I am interested in the City of Richland connectivity study and opportunities for public input. Do you have any dates set for open house's or surveys? I know a lot of people who are very interested in this and would like to be involved do you have a listserv set up so you can stay informed?

Thank you!

Alison

Get [Outlook for iOS](#)

Please expect the 2nd email by the end of the weekend or sooner.

Kristin

On Thursday, August 1, 2019, Caroline Mellor <cmellor@langdongroupinc.com> wrote:

Hi Kristin,

Thank you again for your time on the phone today. I appreciated the opportunity to learn from your insights for the City of Richland's Downtown Connectivity Study. Feel free to reach out if you have any other thoughts or questions.

We will be in touch as we have information on our next steps. I've also attached the project overview flyer.

Best,

CAROLINE MELLOR

Project Associate



[7825 N Meadowlark Way, Coeur d'Alene, ID 83815](#)

e cmellor@langdongroupinc.com w www.langdongroupinc.com

p 208 762 8787 c 208 484 9592

From: Kristin <re.kristin@gmail.com>
Sent: Thursday, August 1, 2019 10:51 AM
To: Caroline Mellor <cmellor@langdongroupinc.com>
Subject: Walkability Richland Farmers' Market

[External Email]

Hi Caroline,

I am available for an interview if it's not too late (I've been out of town most of July).

Please call or text 503-260-3265.

Kristin

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From: [Caroline Mellor](#)
To: [Kristin](#)
Subject: RE: Walkability Richland Farmers' Market
Date: Monday, August 5, 2019 1:50:00 PM
Attachments: [image001.png](#)

Hi Kristin,

Thank you for this detailed reply and the attachments. I'll make sure to capture these issues in my stakeholder summary report and discussions with the City. In terms of moving forward in our process, I've also shared these details and documents with my engineer colleagues who will analyze different potential alternatives this Fall.

Best,

CAROLINE MELLOR
Project Associate



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[p 208 762 8787](tel:2087628787) [c 208 484 9592](tel:2084849592)

From: Kristin <re.kristin@gmail.com>
Sent: Sunday, August 4, 2019 12:03 PM
To: Caroline Mellor <cmellor@langdongroupinc.com>
Subject: Re: Walkability Richland Farmers' Market

[External Email]

I found the connectivity improvements I created for The Parkway (attached), but ironically could not find the wayfinding plans.

Parking is a problem, there is tons of space but people threaten towing. On G Way at the south end of The Parkway is an empty lot that the absentee owner has literally placed a person to stand guard. The post office a block away shares a lot with large building that is empty. The owner of that building has literally tried to tow post office costumers because he thought they were at the farmers' market. It is imperative to these human wads of toilet paper they must protect vacant spots from market shoppers. Also people moan if they don't have front row parking.

Some thoughts that do and don't pertain the Parkway connectivity:

I was at a Benton-Franklin County transportation planning meeting for the public and a woman from Franklin County showed plans for major road construction in farming/rural areas. This is a popular spot to bicycle and I asked what type of bike accommodations were in

the plans, I am expecting to hear about extra wide shoulders, sharrow signs, painted bike lanes. Her exact words were “Bike paths are a part of Parks and Rec and I am in the transportation department, we don’t do anything with bikes.” Another time I was riding with my small child on a tandem bike, we had just left a business on Wellsian Rd (a major artery in Richland), and were heading to better biking streets/paths when a woman rolled down her window, hung out of it to yell at me that I needed “to get on bike path”. I am not sure if she expected teleportation to the bike path that was a quarter mile away. This attitude that bicycles are only recreational is a major hurdle in the Tri Cities.

There is a lovely but short bike path on Hwy 240 (around Horn Rapids) that ends as it gets closer to the city and does not connect to The Bypass nor facilitate safe passage into town. I was told by the former Richland transportation engineer that plans were afoot, but that was years ago and I have seen nothing. Which means if its completed it is not visible to cyclists.

There is a round-about off Hwy 240 at Columbia Park Trail, Steptoe St. that is a major hurdle for bicycles to safely traverse.

To access the river trail from Leslie Rd, the bicyclist rides along many lovely neighborhoods that do not connect in a meaningful way and are forced onto the major artery, Leslie Rd, which is VERY STEEP, with high speed, high volume traffic. The entire south end of Richland was terribly planned for bicycles.

In regards to The Parkway there is a major berm running parallel to the river and G Way that would benefit from 2 or more paths to crossover. One location is at the northern most parking lot of Howard Amon (picture included) and would connect to the fire station, giving easy access to Swift Blvd. The second place would be adding a ramp to the stairs by the Red Lion Hotel.

The traffic light at G Way x Lee Blvd does not accommodate bicycles riding towards the river. Bikes have to get on the sidewalk to reach the crosswalk trigger. We should encourage bikes to stay off sidewalks if it is not a multi-modal path. A second problem is cars leaving Howard Amon Park often do not look for people in the crosswalk as they turn left. An improvement would be diagonal crosswalks with all cars stopped while pedestrians/bikes move in their optimal direction. As I said on the phone, a tunnel under G Way would be preferable and solve this.

Kristin

On Fri, Aug 2, 2019 at 9:13 AM Caroline Mellor <cmellor@langdongroupinc.com> wrote:

Hi Kristin,

Thank you again for your time for the Downtown Connectivity Study. In addition to the below question on parking, I also wanted to make sure I got your last name and role with the Farmers Market board (not for public information, but just for my full notes).

Best,

Caroline Mellor

From: Caroline Mellor

Sent: Friday, August 2, 2019 9:00 AM

To: Kristin <re.kristin@gmail.com>

Subject: RE: Walkability Richland Farmers' Market

Hi Kristin,

Thank you for this follow-up. I appreciate your taking the time to write down your thoughts. I will contact Micah today.

I also realized I had one more question for you related to the Farmers Market – I've heard differing thoughts on the existing and future parking needs for downtown Richland. If you have time to add any parking related concerns and ideas to your notes, that would be greatly appreciated. I'm also happy to do a brief call if that works better for you.

Best,

CAROLINE MELLOR

Project Associate



7825 N Meadowlark Way, Coeur d'Alene, ID 83815

e cmellor@langdongroupinc.com w www.langdongroupinc.com

p 208 762 8787 c 208 484 9592

From: Kristin <re.kristin@gmail.com>

Sent: Thursday, August 1, 2019 8:03 PM

To: Caroline Mellor <cmellor@langdongroupinc.com>

Subject: Re: Walkability Richland Farmers' Market

[External Email]

Caroline,

My friend Micah Prange will be a great resource to interview. His number is 206-271-2646. He is expecting your call/text.

I have jotted several things down on a pad of paper, will formulate them into more coherent thoughts and attach the grant proposals I've submitted for improved bikability and way-finding. Several things came to mind, after we spoke, as I was cycling home. Please expect the 2nd email by the end of the weekend or sooner.

Kristin

On Thursday, August 1, 2019, Caroline Mellor <cmellor@langdongroupinc.com> wrote:

Hi Kristin,

Thank you again for your time on the phone today. I appreciated the opportunity to learn from your insights for the City of Richland's Downtown Connectivity Study. Feel free to reach out if you have any other thoughts or questions.

We will be in touch as we have information on our next steps. I've also attached the project overview flyer.

Best,

CAROLINE MELLOR

Project Associate



[7825 N Meadowlark Way, Coeur d'Alene, ID 83815](#)

e cmellor@langdongroupinc.com w www.langdongroupinc.com

p 208 762 8787 c 208 484 9592

From: Kristin <re.kristin@gmail.com>

Sent: Thursday, August 1, 2019 10:51 AM

To: Caroline Mellor <cmellor@langdongroupinc.com>

Subject: Walkability Richland Farmers' Market

[External Email]

Hi Caroline,

I am available for an interview if it's not too late (I've been out of town most of July).

Please call or text 503-260-3265.

Kristin

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Richland Downtown Connectivity Study

COMMENT FORM | Public Open House | Jan. 23, 2020

The following comments are submitted by (name, address, city/state, phone and/or email):

NANCY DOGAN
1516 Johnston Ave
Richland WA 99354

Comments regarding the roadway alternatives:

- ① Widening Sadwin is a total non-starter. It's part of downtown & should be made equally walkable.
- ② While I really like the road diet alternative, I recognize that it isn't going to happen. Nevertheless Richland shouldn't sacrifice its downtown for commuters.
- ③ Regarding the Concept - it can work but I am seriously concerned about the impact on residents living in the apartments on GW. Richland lacks sufficient low-income housing alternatives as it is. Destroying a neighborhood, small as it is, for automobile convenience is unconscionable (cont'd below)

Comments regarding the potential downtown, bicycle and pedestrian amenities:

- Please provide physical barriers between bikes and cars. To the extent possible, make them attractive. Use native plants if possible.

Additional comments or questions:

- The city should take a strong role in providing access to comparable housing for those who would be displaced by this project.

MAIL, FAX, OR EMAIL COMMENTS TO:

J-U-B ENGINEERS, Inc.
2810 W Clearwater Ave #201
Kennewick, WA 99336
EMAIL: cmellor@langdongroupinc.com
FAX: 208-762-9797

PLEASE SUBMIT COMMENTS BEFORE

Feb. 3, 2020

Take the survey: ci.richland.wa.us/downtownconnectivitystudy

From: [Ginger Wireman](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Tuesday, August 13, 2019 9:12:31 PM

[External Email]

Carolyn,

I live south of the Yakima River and work in N. Richland, our past WSU.

The city has been repairing/paving GWay for several weeks and I haven't changed my commute time one bit. I leave at the same time and get home at the same time despite the fact significant sections have been closed. This is true whether I drive or take the bus. And Ben Franklin Transit would of course have data to support this statement.

As such I'm quite certain that GWay could be narrowed to one lane in each direction with a bike lane PROTECTED by a parking lane. This could also leave room for a park strip or swale to improve storm water.

The same would be true for Jadwin and the cross streets.

Slowing traffic and adding street parking would benefit the businesses fronting GWay near Lee, and provide more parking for future businesses so we can have a proper urban core.

I fully support putting Richland on a road diet.

Sent from Ginger
Call 509-528-9377

From: [James Wise](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Wednesday, August 14, 2019 10:28:00 AM

[External Email]

Dear Ms. Mellor,

First, let me introduce myself as the new President for the Alliance for a Livable and Sustainable Community, (ALSC) <<http://alsctc.org>> here in the Tri-Cities. The ALSC has been concerned with connectivity issues in Richland (and elsewhere) for years, so we are pleased to see this study being done.

I am now retired, but was a Professor of Architecture in the College of Architecture and Urban Planning at UW some years ago, and so am familiar with such efforts. I would like to offer the assistance of the ALSC, at no cost to the study, in any way possible, to help you produce the best result for the CoR and our community. I was also a Planning Commissioner for the CoR for six years from 2012-2018, so am familiar with many of the central business district issues.

My one question at this point is to what degree you've had the chance to look at other studies of connectivity in comparison cities of our size to see what may have been successfully done elsewhere, and how we might build on their results?

Also, if you've come across any emerging questions of your own in the study, and are looking for data or analog approaches, please don't hesitate to ask me to reach out to our extensive network and see what may be in files or experience to assist your efforts.

Looking forward to any collaboration that can be of positive use,

Jim Wise

James A. Wise, Ph.D.
President, ALSC
Richland WA
<jamesawise@me.com>
mobile: 509.578.9104

From: [Caroline Blackburn](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Thursday, September 19, 2019 4:48:34 PM

[External Email]

Hello Caroline,

I'm a Richland resident living near the bypass off Swift. I'm interested in providing input into your connectivity study. I'd love to see a more pedestrian and family bicycling friendly Richland. Email is the best way to communicate with me due to my varied schedule and little kids running around me a lot. What questions are you discussing now?

Thanks,

Caroline Blackburn

From: [West, Julie](#)
To: [Spencer Montgomery](#); [Caroline Mellor](#)
Subject: FW: Central Business District-Uptown Shopping Center and Surrounding Areas
Date: Wednesday, June 17, 2020 3:16:39 PM
Attachments: [image001.png](#)

[External Email]

From: West, Julie
Sent: Wednesday, April 8, 2020 10:34 AM
To: 'GEORGE GO' <georgego@pacbell.net>
Subject: RE: Central Business District-Uptown Shopping Center and Surrounding Areas

Hi George,

I apologize for the delay in responding to your email. We've had several distractions going on at this time and am just now getting back to your email. Graphics and additional information on the study are available on our [project](https://www.ci.richland.wa.us/departments/public-works/capital-projects/downtown-connectivity-study) website <https://www.ci.richland.wa.us/departments/public-works/capital-projects/downtown-connectivity-study>. I would encourage you to look there and if you have any questions, please let me know.

Thanks,



Julie West, PE
Transportation and Development Manager
625 Swift Blvd., MS-26 | Richland, WA 99352
(509) 942-7461

From: GEORGE GO <georgego@pacbell.net>
Sent: Thursday, March 26, 2020 8:27 PM
To: West, Julie <jwest@ci.richland.wa.us>
Subject: Central Business District-Uptown Shopping Center and Surrounding Areas

Hello,

We received the letter with the Extended One-Way Couplet Alternative Detail Picture.
Can you email a digital copy? The paper copy is difficult to look at.

Thank You

George Go
JCLTG LLC

(509) 578-4127

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From: [West, Julie](#)
To: [Spencer Montgomery](#); [Caroline Mellor](#)
Subject: FW: Uptown Businesses
Date: Wednesday, June 17, 2020 3:15:57 PM
Attachments: [image002.png](#)

[External Email]

From: West, Julie
Sent: Friday, April 10, 2020 12:42 PM
To: Wallner, Amanda <awallner@CI.RICHLAND.WA.US>
Subject: RE: Uptown Businesses

I heard from these businesses:

295 Williams

1301 Jadwin (or it may have been 421) was the west side of Jadwin at that intersection

1415/25 Gway

Their main concerns were related to reduced traffic past their business and access to their business. All 3 needed an explanation of how the traffic would flow on the exhibit. I directed them to the website so they could view the pdf and zoom in on the area they were concerned with. Pretty easy discussions.

From: Wallner, Amanda <awallner@CI.RICHLAND.WA.US>
Sent: Friday, April 10, 2020 12:36 PM
To: West, Julie <jwest@ci.richland.wa.us>
Subject: RE: Uptown Businesses

Julie,

Good morning! I think they are all scrambling for funding and figuring out how to stay open. Yes so far the meetings have all been cancelled unfortunately. But I am sending a newsletter by email again next week and otherwise I guess we did the best we could with the time and circumstances, if you heard from some then we know they all got it which is good. I didn't hear from anyone about it directly, curious who you heard from and how it went?

Thanks,

Mandy Wallner
Marketing Specialist | Economic Development
625 Swift Blvd. MS#18 | Richland, WA 99352



O: (509) 942-7595
M: (509) 578-9329

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From: West, Julie <jwest@ci.richland.wa.us>
Sent: Friday, April 10, 2020 9:42 AM
To: Wallner, Amanda <awallner@CI.RICHLAND.WA.US>
Subject: Uptown Businesses

Hi Mandy,

With everything going on I assumed that the business meetings were canceled these past weeks. Have you heard much from the businesses after our flyer went out? I've only been contact by a couple and was able to talk through the project with them.

Thanks,



Julie West, PE
Transportation and Development Manager
625 Swift Blvd., MS-26 | Richland, WA 99352
(509) 942-7461

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February 18th, 2020

To: Pete Rogalsky, Public Works, City of Richland
Spencer Montgomery, J-U-B Engineers
Caroline Mellor, Langdon Group

Re: Bicycle Traffic Considerations for the Richland Connectivity Study

Bike Tri-Cities advocates for a safe and convenient bicycle transportation network within our community. We represent members of all ages and abilities. We appreciate being invited to participate in the City of Richland's Downtown Connectivity Study. Improving active transportation (walking and cycling) connectivity between Richland's downtown, rivershore, and neighborhoods will improve quality of life for residents and visitors alike. We recognize the City of Richland's commitment to active transportation infrastructure as specified in the 2017 Comprehensive Plan.

Bicycles are a form of transportation for people of all ages and abilities, connecting residents to the services and facilities they use in our downtown core. Active transportation connectivity will most benefit our most vulnerable road users, children and seniors. Children and seniors need safe east-west access between downtown, the riverfront, and home. Bicycling is a practical transportation option available to residents who are unable to drive. It is an ideal form of transportation for distances between half a mile to 2 miles, particularly on hot summer days. Children as young as 8 years of age enjoy the autonomy that bicycling provides. Seniors who walk and cycle daily as a form of transportation enjoy a longer life and better quality of life.

Our downtown small businesses would benefit greatly from active transportation connectivity. The economic benefits of a safe and complete bicycling infrastructure are well documented. Bicyclists are shown to spend more money at small businesses than drivers. Residents living within a mile of small businesses are shown to be the most frequent patrons, and our downtown is surrounded by neighborhoods. Studies show that when active transportation is prioritized, residents within walking and bicycling distance choose to walk and cycle. The riverfront already serves a remarkable amount of foot and bicycle traffic. People walking and bicycling along the river will benefit from increased safety and convenient access to downtown amenities. While car parking takes up valuable real estate, bicycles require only 1/10 of the space. Improving east-west active transportation infrastructure from surrounding neighborhoods through the downtown to the rivershore would improve the vibrance of our downtown core.

We appreciate that the study considered two alternatives—a road diet for both Jadwin Avenue and George Washington Way, and a one-way couplet of the aforesaid arterials. Both could allow for significant active transportation improvements, as well as on-street parking. These improvements for active transportation include reduced vehicle speeds, protected bike lanes, wider sidewalks, shorter crossing distances at intersections, and secure bicycle parking. We recognize the improvements that the City of Richland has recently made in our downtown core,

such as the pedestrian crossing between John Dam Plaza and the Federal Building, and the “complete street” in the Swift Boulevard corridor. We look forward to the completion of more improvements such as these.

- While Bike Tri-Cities does not necessarily endorse either alternative explored in the study, we ask that the City of Richland prioritize active transportation connectivity over Vehicle Level Of Service. In the street design, we ask that you carefully consider the desired lines of pedestrian and bicyclist movement between neighborhoods and activity centers (including the public library, pool, community center, public schools, park, and civic buildings; shopping, and medical care) within a 2 mile radius of the urban core and riverfront before selecting a preferred alternative.

The crux of the matter is that streets in our downtown and our neighborhoods must be designed to ensure the safety of all road users. Street design must reflect that automobile speeds greater than 20 mph result in higher rates of pedestrian and bicyclist injury and death. We recommend consideration of “Bicycle Level of Service” and insist upon prioritization of “Bicyclist Level of Stress” particularly at intersections where conflict is most likely. In short, the city has a responsibility to provide best practice active transportation infrastructure when redesigning streets.

Thank you again for including us in the process. We look forward towards equitable and sustainable transportation options for all road users.

Sincerely,

Bike Tri-Cities Board



Alliance for a Livable and Sustainable Community

3555 Strawberry Lane, Richland, WA 99352 www.alsctc.org

March 1, 2020

To: City of Richland Planning Commission: Kyle Palmer, Chair; Marianne Boring, Vice Chair.
Members: Michael Mealer; Francesca Maier; Phillip Townsend; Phillip Keuhlen.

Pete Rogalsky, Public Works Director
Spencer Montgomery, J-U-B Engineers
Caroline Mellor, Langdon Group

From: Executive Board of the *Alliance for a Livable and Sustainable Community**

Re: Recommendations for the Richland Connectivity Study

The Alliance for a Livable and Sustainable Community (ALSC) would like to thank the City of Richland and the consultants who led this project for the opportunity to participate in this progressive and informative example of citizen involvement in City transportation planning. We believe that vigorous public engagement is a critical element of planning and design solutions that provide the environmental, economic, health, and social benefits for a just society.

The project team was tasked with creating and analyzing alternative strategies for activating the City Council's vision of a downtown and waterfront district more conducive to walking and bicycling. Members of the ALSC participated in the workshops and conducted their own background research on the issues of the study. As an organization focused on sustainability principles, we are not fans of plans to increase traffic speeds and density. And yet we realize the exigencies of traffic demand produced by the geographic layout of the city and that the purpose of this Downtown Connectivity Study is to advance the City Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow through downtown.

Our board members agree that the key element to establishing an economically vibrant Central Business District is the creation of public spaces that people want to be in. Public safety, traffic-calming, and community placemaking must be prioritized in order to achieve the City's vision. Many of our board members expressed concern about the couplet because wider lanes or one-way streets encourage higher speeds. One of our members proposed the "Road Diet" plan in the workshops, and after further discussion by our board we have found many features of the road diet would make the roads safer for pedestrians. Two-way streets and on-street parking encourage drivers to slow down, watch for people and bikes, and possibly take alternative routes that allow for higher speeds such as the by-pass.

We recommend that the option selected by the City remove barriers to multi-modal transportation, plan for complete streets and encourage active transportation, elements that are an integral part of sustainable development including:

1. Removal of barriers to active transportation by including infrastructure that safely accommodates bikers and walkers.
2. Removal of barriers to mass transit and shared transportation such as insufficient densities of residential areas, unused downtown parking, bus routes separated from the busiest areas with infrequent service, and a lack of mixed-use, walkable neighborhoods near transit stops.
3. Use of traffic calming strategies such as: street striping, planters, bollards or other barriers that clearly demarcate lanes for motorized vehicles from those to be used by walkers or cyclists, or making temporary changes to traffic patterns to avoid the real world consequences of any long term, more permanent changes, e.g., increased use of secondary streets or driving through residential neighborhoods to avoid traffic on the primary routes. (These and other traffic calming ideas are described in the 'Traffic Calming Toolkit, <https://www.pps.org/article/livememtraffic>).
4. Reducing speed limits: To be most effective, traffic calming measures should be paired with reduced traffic speeds. Every 1 mph reduction in vehicle speeds on urban streets results in a 6 percent decrease in traffic fatalities. For example: if a driver hits a pedestrian or bicyclist at 20 mph or less, there is an estimated 95 percent survival rate; at 30 mph, a pedestrian has only a 5 percent chance of walking away without injury and the death rate jumps to 45 percent.
5. Integrate and minimize the impact on the natural environment: The final design should enhance the use of open public spaces, and preserve natural spaces and habitat. These have been shown to be essential components of a thriving downtown area. In addition, the presence of street trees provides natural cooling, cleans the air and can reduce energy demand for air conditioning on buildings adjacent to these natural features. This will also allow for a better connection with Howard Amon Park nearby and create more comfortable pedestrian environments.

We appreciate the work being done by the City of Richland and the consultants, and for taking our suggestions into account as you move forward with the revised traffic plan. Please contact us if we can provide additional input on these or any related aspects of the project.

Sincerely yours,

The Executive Board of the Alliance for a Livable, Sustainable Community
James A. Wise, Ph.D., President

**Mission: The Alliance works to promote and advocate "livable and sustainable" principles and practices in the Tri-City region by bringing stakeholders together to create and maintain a community-wide collaborative effort for improved quality of life in our community. Affiliation with the Alliance for a Livable and Sustainable Community recognizes shared values and a commitment to community collaboration. The affiliation does not affect the governance or independence of any affiliated organization. Positions taken by the Alliance are not necessarily those adopted by its affiliates. Similarly, affiliates may adopt positions that are not those of the Alliance.*

From: [West, Julie](#)
To: [Caroline Mellor](#)
Cc: [Spencer Montgomery](#)
Subject: FW: Central business district project
Date: Thursday, April 9, 2020 1:15:38 PM

[External Email]

Hi Caroline,

I spoke with Mr. Grigg this afternoon. In general I think he understands the concept and I pointed out a few features along the corridor and the intersection at Symons/Gway that helped address some of his concerns. His main concerns seemed to be:

- Fear of losing traffic driving past the properties to the north of Symons
- Traffic accessing his driveways along Gway and why the prohibited traffic needs to extend so far north.
- The bike lane having curbing on both sides and not being able to access his driveway on Symons, I told him that there is a break in the curb to allow driveway access across the bike lanes for businesses.

He requested we add him to our project email list and keep him informed as we progress with any future designs. At the completion of the study we'll want to get a mailing list from JUB with all emails associated with comments you've received so moving forward we can use it to disperse information.

If you would add this to your public comments.

Thanks,
Julie

From: Charlie Grigg <charlie@griggsonline.com>
Sent: Thursday, April 9, 2020 12:15 PM
To: West, Julie <jwest@ci.richland.wa.us>; Reents, Cindy <creents@ci.richland.wa.us>
Cc: Charles F Grigg <chas@griggsonline.com>; CJ Grigg <cj@griggsonline.com>
Subject: Central business district project

I received the flyer in the mail regarding changing traffic patterns.

I can tell you that I made a significant investment in the property at 1415 Gway, because of the amount of traffic that passes in front of our store.

I do not want to see that reduced.

Having 4 north bound lanes all the way to Symons, and then going to 2 lanes is creating a choke point.

There is also barrier north bound that does not allow customers to turn into my first entrance, and they can't get to the Circle K at all.

That barrier goes so far down that they only have 4 car lengths to get into the turn lane to even get to the second entrance.

And bike paths? We are going reduce lanes for bike paths? We have side streets and a bike path by the river.

The south bound traffic on GW is going to hit a choke point at Symons, so they may decide to get up on Jadwin well before that, which impacts the traffic by my business also.

If you are trying impact my business, and cause damages, I think this does it.

My cell is 539-0050 if you would like to discuss this.

Thank you

Charlie Grigg

Grigg Enterprises, Inc.

Ace stores, 1887, 11682, 14467, 15365

(509) 547-0566 Work

(509) 547-4387 Fax

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From: [James Wise](#)
To: [Rogalsky, Pete](#); [Spencer Montgomery](#); [Caroline Mellor](#)
Subject: A new publication for you
Date: Wednesday, March 4, 2020 12:00:41 PM
Attachments: [New Pattern Language - Growing Regions.pdf](#)

[External Email]

Colleagues of the Richland Connectivity Study,

Acting in my role as a private citizen of RL, and a member of the advisory group for the Connectivity Study, I like you to take a look at this new publication that is just coming out.

I am a long time member in an international group called the “Environmental Design Research Group”. For the past couple of years, we in the group have been working on an update of the classic Pattern Language book, now applied to cities at various stages of development. I’ve just managed to get from the lead author on this a pre-copy of the book, and it has exactly what I think we need to inform the Connectivity Study

Please take a look at page 64, where it talks about design of a multiway boulevard. This shows what I was talking about when I said I felt that a good design of the couplet strategy could take advantage of some properties of the road diet. Imagine something like this worked out for GWW and Jadwin, even if they were turned into one way ‘boulevards’. Note, however, that the success of this type of design depends on the connectivity as well as the urban design supporting what is supposed to be happening along different sections of the ‘boulevard’. This is what I mean when I said earlier in a meeting that to develop a proper choice of roadways, there might be a need to do some urban design first.

Anyway, I hope this preprint of the forthcoming publication helps out your efforts. The only thing I ask is that — since it is a preprint, and was sent to me for review—that you don’t widely it on beyond your project team,, and that if you use it in a report, you give it a proper citation.

With appreciation for your continuing efforts,

Jim Wise

James A. Wise, Ph.D.
Richland WA

Feb. 5, 2020

Dear Ms. Mellor:

We are writing to you per information on the City of Richland's webpage describing the proposals from the Downtown Connectivity Study. While we appreciate the work that has been done on this project we have a number of concerns focusing on the premature dismissal of the 'road diet' approach and heavy emphasis on the 'couplet approach.' Many of these concerns are a result of Council's guidance to meet two conflicting goals,

- a) Make downtown Richland more pedestrian and bike friendly.
- b) Maintain or improve vehicular traffic flow through this same area.

As can be seen in many other metropolitan areas, these two objectives don't work together. While not a concern to commuters in fast moving cars, these vehicles produce a very unpleasant and unsafe environment for pedestrians and cyclists. We do not support the couplet approach because it makes downtown more of a drive-through district rather than a destination for residents interested in supporting local businesses and community activities. We prefer the road diet alternative, but if this isn't selected, we think no action is the better alternative over the couplet approach.

Regardless of which project is selected, we strongly support two of the general improvements proposed for any work to be done.

1. A safe infrastructure for walking and cycling has been shown to be central to getting people out of their cars and to reducing accidents when they use active transportation. For this reason, we strongly support the proposal of constructing bike lanes with a barrier between active transport and motorized transport. Places where cyclists are riding in the door zone of parked cars, make the likelihood of accidents very high.
2. We also support wider sidewalks, sidewalk seating, and more shade, all of which encourage people to get out of their cars.

One suggestion we would advance for either project is based on studies other cities have done prior to changing traffic flow, i.e., using relatively inexpensive barricades and re-striping to simulate the proposed changes. These are done prior to spending significant amounts of money only to find problems later on. We suggest a similar experiment be done to test either or both the couplet and road diet alternatives. While such a test could not simulate the new connection between GWW and Jadwin, proposed for the north end of the study area, using Williams as the connector (with Jadwin one way starting at Williams) would seem to be an adequate surrogate that would not significantly affect the utility of results of this test run.

- Issues with early dismissal of the road diet.
We feel the road diet approach would result in a more livable and sustainable environment for the city relative to the couplet approach.
 1. As a result of Council's conflicting goals of having greater traffic flow with more pedestrian/bike friendly neighborhoods, 0 points were given to the road diet for the standard to 'move traffic/reduce commute time.' This scoring is unfair given the conflicting and unrealistic goals.

2. But even though the road diet was given 0 points for these unrealistic goals, it was still within only 2 points of the total score for the couplet alternative (323 points for the road diet vs 325 for the couplet). This is another reason the road diet should be reconsidered as a viable alternative.
3. The couplet alternatives gives little consideration to residents north of Williams who have business on northbound GWW south of Williams or wish to go to Howard Amon Park. Little consideration is also given to residents south of Gillespie St. with business on southbound Jadwin. This lack of concern makes it appear that the couplet approach is aimed to please only commuters driving through Richland, with little or no concern for residents who actually live here.
4. The couplet approach will make downtown Richland one long drive-through street, reducing its desirability as a destination for shopping, lingering or simply enjoying the quality of life that the Tri-Cities is marketing itself. In contrast, the road diet makes downtown Richland a real downtown, with slower traffic and cross-street accessibility.
5. It's not clear why the safety score was so much better for the couplet than for the road diet. Cars naturally would be moving slower with the road diet which is a proven factor for increasing safety for bikes, pedestrians and cars. It is feasible to have a 25 mph speed limit in the road diet scenario, but not in the couplet scenario where the priority is moving traffic rather than benefitting the residents, walkers or cyclists.

In summary, as longtime residents in the old part of town, we think that either the road diet alternative or the no build alternative is preferable to the couplet alternative.

- Concerns for the 'couplet' approach:

While we do not support the couplet approach, we suggest the following issues be more carefully addressed should this option be selected.

1. Parallel parking on one way streets on the left side (especially) in the presence of traffic sounds dangerous. Typically, drivers have to back up into traffic for parallel parking on the right side of the street. With the couplet approach, drivers will have to back up into traffic on the left side. This is not part of the typical U.S. driver training experience, and would be an added element of danger with the couplet parking solution.
2. In addition, parking on one way thoroughfares (which is what the couplet approach will make GWW and Jadwin) leads to double parking, or at least it does in other urban areas. Getting out of a parking spot in the presence of traffic that is moving at a pace that is consistent with 'maintaining or enhancing the vehicular travel flow through downtown' sounds like an added danger to motorists.
3. One challenge not commented on in the JUB report is how the couplet approach can improve parking on the Jadwin Section 3 area, which is where more parking is needed. Improvements are not needed on Jadwin section 2 where there is already considerable off-street parking. Other parking solutions are needed to encourage use of the downtown businesses and fairs.
3. Cyclists on both GWW and Jadwin are directed to bike lanes on the right side of these one-way boulevards. This raises the question, how will they access business or parks on the left side of these streets? The city the state and bike advocacy groups all discourage cyclists from riding on sidewalks, which are notoriously dangerous because of the presence of pedestrians and the drivers of motor vehicles who drive across them to enter/exit parking lots, etc. It seems unrealistic to

expect cyclists to loop around to the south- or north-bound streets as would be done with cars. What realistic guidance would you give to cyclists in this position?

4. If the couplet alternative is pursued, then we suggest opening Lee Blvd. between Jadwin and GWW, making it accessible to 2-way traffic through the existing traffic circle. While this would hurt pedestrian access in the parkway, it would enhance connectivity from west of Jadwin to GWW and Howard Amon Park.
5. Where does the JUB report comment on the fate of low income residents now living in section 4 (where Jadwin is proposed to connect to GWW near Williams? Whether or not the owner(s) of this property are willing to sell this land to the City, it seems there is a social justice issue involved for the low-income residents presently living here.
6. How will the city mitigate the crossing of the wetlands in Hip Deep Creek (section 4)?

In summary, we feel that while couplet approach might benefit commuters driving through the business district it will offer few, if any, benefits to residents living in this part of Richland.

Debbie and Carl Berkowitz
544 Franklin St.
Richland, WA 99354
cdberkowitz@charter.net
509-375-4740

From: [Martha](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Monday, February 3, 2020 1:20:53 PM

[External Email]

Hi Caroline,

I live on Hains Ave and spend a lot of time in the proposed area. One thing I would highly recommend is that those involved in the decision take the time to walk/bike the streets especially during rush hour traffic. Even trying to cross GW Way during rush hour is scary. I would think this has been done already, but I thought I would make the suggestion anyway.

Thanks

Martha Ferguson

Sent from [Mail](#) for Windows 10

From: [Bender, Michael D](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Tuesday, January 28, 2020 6:40:48 AM

[External Email]

I think the one way streets through Richland would be a great idea and an improvement, only if they ran north all the way to McCurry.

From: [Jason Schlierman](#)
To: [Caroline Mellor](#)
Subject: RE: City of Richland Downtown Connectivity Study
Date: Sunday, January 26, 2020 8:01:16 PM

[External Email]

Hello,

I am a resident of the City of Richland who resides in the North Richland area. While I'm all for more accessibility for bikes and pedestrians, I'm not happy about the idea of turning any part of Jadwin or George Washington Way into one way streets. I'm from Los Angeles, CA originally, and I don't want to see Richland turned into LA or Seattle. I'm worried that it will increase the traffic on smaller connecting streets going east to west. Another thing is that one way streets are very frustrating and inconvenient for motorists, which the last time I checked, is the number one way most citizen in the city get from place to place, including to work. I can see from a government perspective how that could be enticing, as I'm sure your money from tickets written to motorists going the wrong way on said streets might go up, but please don't do it. Thank you for your consideration.

-Jason M. Schlierman

From: [Mark Fry](#)
To: [Caroline Mellor](#)
Subject: Richland Downtown Connectivity Study
Date: Thursday, January 23, 2020 2:50:25 PM

[External Email]

Hi Caroline,

My name is Mark Fry and I live in North Richland. I'm not sure if I can make it to tonight's meeting, so I give you my input here.

I know there are four options on the table, and if given the choice, I pick option 4, ALONG with lowering the speed limit. I wasn't happy about my property taxes going up last time, and I can't not afford for them to be raised again. Before we spend money on rebuilding our existing streets, we need to address the real problem.

Hanford workers using GW Way for their commute. Let's solve the problems with the bypass, get the Kennewick and Pasco Hanford commuters off GW Way and onto the bypass, and THEN, see if we need to start redesigning and rebuilding GW Way and Jadwin Ave.

I feel that Option 1, turning GW and Jadwin into one-ways, would be a horrible idea. It would drive commuters onto the side streets to circle back to where they were trying to go in the first place. Plus, if they don't follow speed limits on the main streets, they're not going to on the side streets, where kids are playing and riding their bikes etc.

Option 2, too much money.

Option 3, until you get r Hanford commuters off GW and onto the bypass, it will just cause a big clog/hairball in the drain effect. Sorry if this is a big mess to read, I'm in a hurry as usual. Thank you for your time.

Mark Fry

2327 Davison Ave, Richland, WA 99352
509-554-2828

From: [Michel Luzzo](#)
To: [Caroline Mellor](#); [Reents, Cindy](#)
Subject: Re: Easements
Date: Tuesday, January 21, 2020 1:08:29 AM

[External Email]

This is for the Jadwin Ave option in Richland, naturally.

On Tue, Jan 21, 2020 at 1:03 AM Michel Luzzo <luzzomichel5@gmail.com> wrote:

The easements that you might look for would be such. The bypass highway was built in the 1950's. Look for US Army (Corps of Engineers), Burlington Northern RR/Tri City Seattle Portland and Spokane RR easements. The apts should be the Garden Woods and Windsong Apts, for conjoining roadway. I'm greatfull for your help. But we need to move city traffic if possible...

Mike Luzzo
Richland


Appendix B

Level of Service Worksheets for Intersections for Existing Conditions

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↕		↖	↕	
Traffic Volume (vph)	85	2	144	3	5	5	113	832	14	1	1267	125
Future Volume (vph)	85	2	144	3	5	5	113	832	14	1	1267	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		180	0		0	150		0	115		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.98		0.99			1.00			1.00	
Frt			0.850		0.948			0.998			0.986	
Flt Protected		0.953			0.989		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1733	0	1770	3530	0	1770	3479	0
Flt Permitted		0.729			0.954		0.096			0.328		
Satd. Flow (perm)	0	1358	1552	0	1672	0	179	3530	0	611	3479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			147		5			4			20	
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		936			453			1951			1517	
Travel Time (s)		21.3			12.4			38.0			29.6	
Confl. Peds. (#/hr)			5			5			5			5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	87	2	147	3	5	5	115	849	14	1	1293	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	147	0	13	0	115	863	0	1	1421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	60	60		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		D.P+P	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			2			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	8.0		8.0	8.0	
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5		9.5	39.0		24.0	24.0	
Total Split (s)	22.0	22.0	22.0	22.0	22.0		12.0	58.0		46.0	46.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%		15.0%	72.5%		57.5%	57.5%	
Maximum Green (s)	16.5	16.5	16.5	16.5	16.5		6.5	52.5		40.5	40.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.5		-1.5		-1.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		4.0	4.0		4.0		4.5	3.5		3.5	3.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	Max	Max	Max	Max	Max		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)		18.0	18.0		18.0		49.9	54.5		45.9	45.9	
Actuated g/C Ratio		0.22	0.22		0.22		0.62	0.68		0.57	0.57	
v/c Ratio		0.29	0.32		0.03		0.50	0.36		0.00	0.71	
Control Delay		32.5	17.9		20.2		20.7	4.4		10.0	14.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		32.5	17.9		20.2		20.7	4.4		10.0	14.3	
LOS		C	B		C		C	A		A	B	
Approach Delay		23.4			20.2			6.3			14.3	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		42	0		3		8	43		0	220	
Queue Length 95th (ft)		91	79		17		63	28		m1	272	
Internal Link Dist (ft)		856			373			1871			1437	
Turn Bay Length (ft)			180				150			115		
Base Capacity (vph)		305	463		380		262	2406		350	2005	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.29	0.32		0.03		0.44	0.36		0.00	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 44 (55%), Referenced to phase 2:NBSB and 6:NBT, Start of Green

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 74.1%

ICU Level of Service D

Analysis Period (min) 15





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: George Washington Way & Williams Ave/Hains Ave



Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	1	286	0	0	0	249	872	1	0	1391	103
Future Volume (vph)	87	1	286	0	0	0	249	872	1	0	1391	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	0		0	180		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor			0.98								1.00	
Frt			0.850								0.990	
Flt Protected		0.953					0.950					
Satd. Flow (prot)	0	1775	1583	0	1863	0	1770	3539	0	0	3500	0
Flt Permitted		0.729					0.088					
Satd. Flow (perm)	0	1358	1552	0	1863	0	164	3539	0	0	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			34								12	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		380			294			1388			1951	
Travel Time (s)		8.6			6.7			27.0			38.0	
Confl. Peds. (#/hr)			5									2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	92	1	301	0	0	0	262	918	1	0	1464	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	301	0	0	0	262	919	0	0	1572	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	10	10		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	9	9		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	pm+ov				D.P+P	NA			NA	
Protected Phases		4	1		8		1	6			2	
Permitted Phases	4		4	8			2			2		
Detector Phase	4	4	1	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	20.5	20.5	9.5	9.5	9.5		9.5	36.0		21.0	21.0	
Total Split (s)	23.0	23.0	17.0	23.0	23.0		17.0	57.0		40.0	40.0	
Total Split (%)	28.8%	28.8%	21.3%	28.8%	28.8%		21.3%	71.3%		50.0%	50.0%	
Maximum Green (s)	17.5	17.5	11.5	17.5	17.5		11.5	51.5		34.5	34.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.0		-1.5		-1.0	-2.0			-2.0	
Total Lost Time (s)		4.0	4.5		4.0		4.5	3.5			3.5	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0								6.0	6.0	
Flash Dont Walk (s)	9.0	9.0								9.0	9.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)		9.9	20.9				59.0	65.2			47.5	
Actuated g/C Ratio		0.12	0.26				0.74	0.82			0.59	
v/c Ratio		0.55	0.69				0.71	0.32			0.75	
Control Delay		58.5	33.5				33.7	0.8			10.1	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		58.5	33.5				33.7	0.8			10.1	
LOS		E	C				C	A			B	
Approach Delay		39.4						8.1			10.1	
Approach LOS		D						A			B	
Queue Length 50th (ft)		51	105				57	8			32	
Queue Length 95th (ft)		98	91				142	16			#581	
Internal Link Dist (ft)		300			214			1308			1871	
Turn Bay Length (ft)			150				180					
Base Capacity (vph)		322	459				398	2883			2084	
Starvation Cap Reductn		0	0				0	0			0	
Spillback Cap Reductn		0	0				0	0			0	
Storage Cap Reductn		0	0				0	0			0	
Reduced v/c Ratio		0.29	0.66				0.66	0.32			0.75	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 12 (15%), Referenced to phase 2:NBSB and 6:NBT, Start of Green

Lanes, Volumes, Timings

144: George Washington Way & Swift Blvd

11/25/2019

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 13.0

Intersection LOS: B

Intersection Capacity Utilization 81.9%

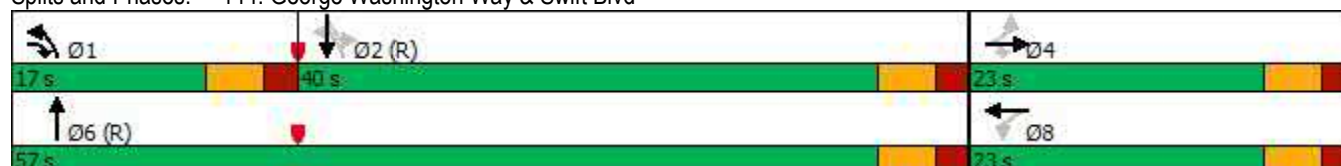
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.






















Queue shown is maximum after two cycles.

Splits and Phases: 144: George Washington Way & Swift Blvd



Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	6	146	15	5	2	43	1006	6	4	1332	62
Future Volume (vph)	63	6	146	15	5	2	43	1006	6	4	1332	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	80		80	150		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99			1.00			1.00	
Frt		0.856			0.962			0.999			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1564	0	1770	1783	0	1770	3535	0	1770	3511	0
Flt Permitted	0.752			0.460			0.103			0.232		
Satd. Flow (perm)	1401	1564	0	857	1783	0	192	3535	0	432	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		164			2			1			7	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		373			460			670			1388	
Travel Time (s)		10.2			12.5			13.1			27.0	
Confl. Peds. (#/hr)			7			7			6			1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	71	7	164	17	6	2	48	1130	7	4	1497	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	171	0	17	8	0	48	1137	0	4	1567	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	160	160		60	60		60	240		60	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	77	77						117			117	
Detector 2 Size(ft)	6	6						6			6	
Detector 2 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0						0.0			0.0	
Detector 3 Position(ft)	154	154						234			234	

Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6						6			6	
Detector 3 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0						0.0			0.0	
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.Pm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		1	6		6	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	25.5	25.5		24.5	24.5		9.5	24.0		24.0	21.0	
Total Split (s)	27.0	27.0		27.0	27.0		14.0	53.0		53.0	39.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		17.5%	66.3%		66.3%	48.8%	
Maximum Green (s)	21.5	21.5		21.5	21.5		8.5	47.5		47.5	33.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-1.0	-2.0		-2.0	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.5	3.5		3.5	4.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0			8.0		8.0	8.0	
Flash Dont Walk (s)	14.0	14.0		13.0	13.0			9.0		9.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	8.7	8.7		8.7	8.7		60.1	63.8		63.8	54.9	
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.75	0.80		0.80	0.69	
v/c Ratio	0.47	0.54		0.18	0.04		0.16	0.40		0.01	0.65	
Control Delay	45.2	20.1		35.5	27.1		2.6	0.6		1.0	5.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.2	20.1		35.5	27.1		2.6	0.6		1.0	5.5	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		27.5			32.8			0.7			5.5	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	36	28		8	3		0	0		0	143	
Queue Length 95th (ft)	74	70		25	14		m2	1		m0	78	
Internal Link Dist (ft)		293			380			590			1308	
Turn Bay Length (ft)	125			80			150			150		
Base Capacity (vph)	402	566		246	514		331	2820		344	2412	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.30		0.07	0.02		0.15	0.40		0.01	0.65	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 46 (58%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Lanes, Volumes, Timings

148: George Washington Way & Knight St

11/25/2019

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 5.6

Intersection LOS: A

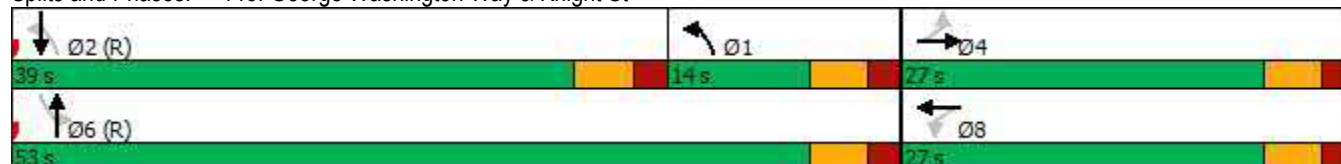
Intersection Capacity Utilization 58.6%

ICU Level of Service B

Analysis Period (min) 15


















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 148: George Washington Way & Knight St



Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	54	15	12	30	1072	28	37	1361	25
Future Volume (vph)	0	0	0	54	15	12	30	1072	28	37	1361	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00							
Frt					0.980			0.996			0.997	
Flt Protected					0.968		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1763	0	1770	3525	0	1770	3529	0
Flt Permitted					0.968		0.096			0.163		
Satd. Flow (perm)	0	0	0	0	1763	0	179	3525	0	304	3529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			5			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		178			454			652			670	
Travel Time (s)		4.9			12.4			12.7			13.1	
Confl. Peds. (#/hr)						4						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	0	0	64	18	14	36	1276	33	44	1620	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	96	0	36	1309	0	44	1650	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)				60	60		60	240		60	240	
Trailing Detector (ft)				1	1		1	1		1	1	
Detector 1 Position(ft)				1	1		1	1		1	1	
Detector 1 Size(ft)				59	59		59	6		59	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type				Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases					8		1	6		5	2	
Permitted Phases				8			2			6		
Detector Phase				8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	10.0		4.0	10.0	
Minimum Split (s)				23.5	23.5		9.5	24.0		9.5	24.0	
Total Split (s)				25.0	25.0		11.0	44.0		11.0	44.0	
Total Split (%)				31.3%	31.3%		13.8%	55.0%		13.8%	55.0%	
Maximum Green (s)				19.5	19.5		5.5	38.5		5.5	38.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)					-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)					4.0		3.5	3.5		3.5	3.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)				0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode				None	None		None	C-Max		None	C-Max	
Walk Time (s)				6.0	6.0			7.0			7.0	
Flash Dont Walk (s)				12.0	12.0			9.0			9.0	
Pedestrian Calls (#/hr)				2	2			0			0	
Act Effct Green (s)					10.0		62.3	58.5		63.0	59.3	
Actuated g/C Ratio					0.12		0.78	0.73		0.79	0.74	
v/c Ratio					0.42		0.14	0.51		0.12	0.63	
Control Delay					32.6		2.4	5.6		1.2	3.3	
Queue Delay					0.0		0.0	0.0		0.0	0.0	
Total Delay					32.6		2.4	5.6		1.2	3.3	
LOS					C		A	A		A	A	
Approach Delay					32.6			5.5			3.2	
Approach LOS					C			A			A	
Queue Length 50th (ft)					41		0	13		1	25	
Queue Length 95th (ft)					67		1	369		m2	42	
Internal Link Dist (ft)		98			374			572			590	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)					470		290	2577		374	2616	
Starvation Cap Reductn					0		0	0		0	0	
Spillback Cap Reductn					0		0	0		0	0	
Storage Cap Reductn					0		0	0		0	0	
Reduced v/c Ratio					0.20		0.12	0.51		0.12	0.63	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												
Actuated Cycle Length: 80												
Offset: 53 (66%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green												

Lanes, Volumes, Timings

152: George Washington Way & Lee Blvd

11/25/2019

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.1

Intersection LOS: A

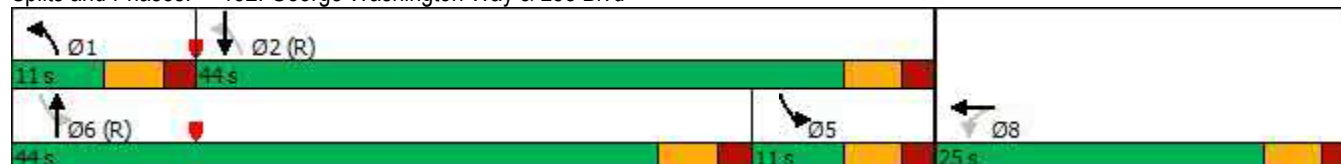
Intersection Capacity Utilization 51.0%

ICU Level of Service A

Analysis Period (min) 15









m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 152: George Washington Way & Lee Blvd



Lanes, Volumes, Timings
156: George Washington Way & Jadwin Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	875	4	1	2	334	1136	0	1	1457	8
Future Volume (vph)	6	0	875	4	1	2	334	1136	0	1	1457	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		0	0		0	90		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	65			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.961						0.999	
Flt Protected		0.950			0.972		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1740	0	1770	3539	0	1770	3536	0
Flt Permitted							0.086			0.215		
Satd. Flow (perm)	0	1863	1583	0	1790	0	160	3539	0	400	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			513		2						1	
Link Speed (mph)		25			20			35			35	
Link Distance (ft)		439			211			736			652	
Travel Time (s)		12.0			7.2			14.3			12.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	0	962	4	1	2	367	1248	0	1	1601	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	962	0	7	0	367	1248	0	1	1610	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		20	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	60	60	60	60	60		75	240		60	240	
Trailing Detector (ft)	1	1	1	1	1		25	1		1	1	
Detector 1 Position(ft)	1	1	1	1	1		25	1		1	1	
Detector 1 Size(ft)	59	59	59	59	59		50	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings
156: George Washington Way & Jadwin Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Free	Perm	NA		D.P+P	NA		D.Pm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		Free	8			2			6		
Detector Phase	4	4		8	8		1	6		6	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	20.5	20.5		20.5	20.5		9.5	27.0		27.0	21.0	
Total Split (s)	22.0	22.0		22.0	22.0		19.0	58.0		58.0	39.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%		23.8%	72.5%		72.5%	48.8%	
Maximum Green (s)	16.5	16.5		16.5	16.5		13.5	52.5		52.5	33.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		-1.0	-3.0		-2.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.5	2.5		3.5	3.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		5.6	80.0		5.6		69.0	77.5		77.3	55.5	
Actuated g/C Ratio		0.07	1.00		0.07		0.86	0.97		0.97	0.69	
v/c Ratio		0.05	0.61		0.06		0.86	0.36		0.00	0.66	
Control Delay		33.8	6.0		31.5		39.7	1.0		0.0	4.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		33.8	6.0		31.5		39.7	1.0		0.0	4.6	
LOS		C	A		C		D	A		A	A	
Approach Delay		6.2			31.5			9.8			4.6	
Approach LOS		A			C			A			A	
Queue Length 50th (ft)		3	308		2		223	20		0	26	
Queue Length 95th (ft)		m7	242		14		#291	70		m0	5	
Internal Link Dist (ft)		359			131			656			572	
Turn Bay Length (ft)							90			150		
Base Capacity (vph)		419	1583		404		429	3427		386	2451	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.02	0.61		0.02		0.86	0.36		0.00	0.66	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings

156: George Washington Way & Jadwin Ave

11/25/2019

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 7.0

Intersection LOS: A

Intersection Capacity Utilization 73.3%

ICU Level of Service D

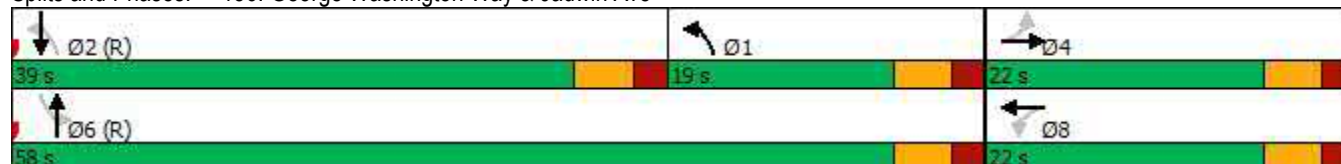
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 156: George Washington Way & Jadwin Ave















Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	128	50	65	162	45	36	351	60	33	542	83
Future Volume (vph)	62	128	50	65	162	45	36	351	60	33	542	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		155	160		150	125		0	150		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	3468	0
Flt Permitted	0.468			0.584			0.375			0.514		
Satd. Flow (perm)	872	1863	1583	1088	1863	1583	699	1863	1583	957	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			57			51			68		36	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		1755			936			2073			1364	
Travel Time (s)		39.9			21.3			47.1			26.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	70	145	57	74	184	51	41	399	68	38	616	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	145	57	74	184	51	41	399	68	38	710	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	51.0	51.0	51.0	51.0	51.0	

Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	36.3%	36.3%	36.3%	36.3%	36.3%	36.3%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%
Maximum Green (s)	23.5	23.5	23.5	23.5	23.5	23.5	45.5	45.5	45.5	45.5	45.5	45.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	12.0	12.0	12.0	12.0	12.0	12.0	59.0	59.0	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.54	0.52	0.20	0.46	0.66	0.18	0.08	0.29	0.06	0.05	0.28	0.28
Control Delay	45.7	37.2	9.8	42.6	46.4	16.6	3.1	3.7	1.3	1.8	1.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	37.2	9.8	42.6	46.4	16.6	3.1	3.7	1.3	1.8	1.6	1.6
LOS	D	D	A	D	D	B	A	A	A	A	A	A
Approach Delay	33.7			40.6			3.4			1.6		
Approach LOS	C			D			A			A		
Queue Length 50th (ft)	33	68	0	40	98	7	4	47	0	2	17	17
Queue Length 95th (ft)	68	112	27	m69	m151	m30	10	63	6	7	31	31
Internal Link Dist (ft)	1675			856			1993			1284		
Turn Bay Length (ft)	150		155	160		150	125			150		
Base Capacity (vph)	267	570	524	333	570	520	515	1375	1185	706	2569	2569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.25	0.11	0.22	0.32	0.10	0.08	0.29	0.06	0.05	0.28	0.28

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 58 (73%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 13.4

Intersection LOS: B

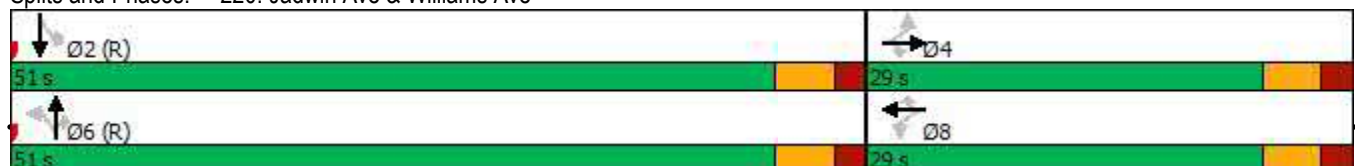
Intersection Capacity Utilization 48.8%

ICU Level of Service A

Analysis Period (min) 15























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 220: Jadwin Ave & Williams Ave















Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	300	138	36	252	57	29	355	32	46	794	46
Future Volume (vph)	79	300	138	36	252	57	29	355	32	46	794	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		200	100		0	120		200	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			65			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.972			0.987			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3440	0	1770	3493	0	1770	3511	0
Flt Permitted	0.525			0.428			0.233			0.489		
Satd. Flow (perm)	978	1863	1583	797	3440	0	434	3493	0	911	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115		38			18			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1167			385			981			2073	
Travel Time (s)		26.5			8.8			22.3			47.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	333	153	40	280	63	32	394	36	51	882	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	333	153	40	343	0	32	430	0	51	933	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes									Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8			6			2		
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5		20.5	20.5		20.5	20.5	
Total Split (s)	34.0	34.0	34.0	34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%	42.5%	42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.5	28.5	28.5	28.5	28.5		40.5	40.5		40.5	40.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	29.5	29.5	29.5	29.5	29.5		41.5	41.5		41.5	41.5	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.52	0.52		0.52	0.52	
v/c Ratio	0.24	0.49	0.23	0.14	0.27		0.14	0.24		0.11	0.51	

Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	24.6	25.7	12.1	15.7	14.1		9.4	9.1		6.8	11.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.6	25.7	12.1	15.7	14.1		9.4	9.1		6.8	11.6	
LOS	C	C	B	B	B		A	A		A	B	
Approach Delay	21.9			14.3			9.1			11.3		
Approach LOS	C			B			A			B		
Queue Length 50th (ft)	31	122	13	11	43		10	66		8	185	
Queue Length 95th (ft)	m59	m186	m48	m16	m58		24	75		17	190	
Internal Link Dist (ft)	1087			305			901			1993		
Turn Bay Length (ft)	145		200	100			120			150		
Base Capacity (vph)	360	686	656	293	1292		225	1820		472	1826	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.49	0.23	0.14	0.27		0.14	0.24		0.11	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 18 (23%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 45

Control Type: Pretimed

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 13.9

Intersection LOS: B

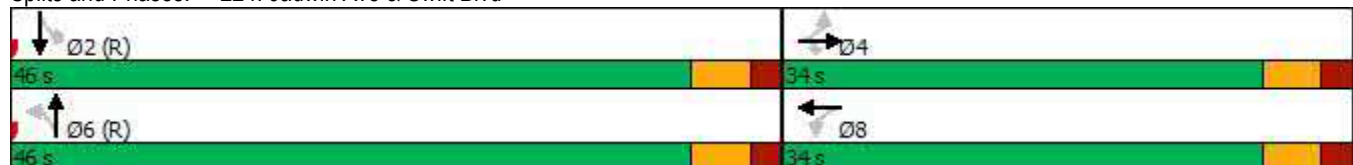
Intersection Capacity Utilization 60.9%

ICU Level of Service B

Analysis Period (min) 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 224: Jadwin Ave & Swift Blvd















Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	88	72	43	66	26	29	350	34	63	964	42
Future Volume (vph)	16	88	72	43	66	26	29	350	34	63	964	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	125		0	125		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			30		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99			1.00			1.00	
Frt		0.932			0.958			0.987			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1700	0	1770	1768	0	1770	1831	0	1770	3501	0
Flt Permitted	0.678			0.424			0.229			0.493		
Satd. Flow (perm)	1263	1700	0	790	1768	0	427	1831	0	918	3501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			24			12			11	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		433			373			646			416	
Travel Time (s)		11.8			10.2			14.7			9.5	
Confl. Peds. (#/hr)			23			6			11			39
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	18	99	81	48	74	29	33	393	38	71	1083	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	180	0	48	103	0	33	431	0	71	1130	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		3	3		3	3		3	3	
Detector Template												
Leading Detector (ft)	200	200		160	160		240	240		240	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		6	6		6	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	97	97		77	77		117	117		117	117	
Detector 2 Size(ft)	6	6		6	6		6	6		6	6	
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 3 Position(ft)	194	194		154	154		234	234		234	234	

Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6		6	6		6	6		6	6	
Detector 3 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		23.5	23.5		23.5	23.5		21.5	21.5	
Total Split (s)	25.0	25.0		25.0	25.0		55.0	55.0		55.0	55.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		68.8%	68.8%		68.8%	68.8%	
Maximum Green (s)	19.5	19.5		19.5	19.5		49.5	49.5		49.5	49.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	7.0	7.0		9.0	9.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	10.8	10.8		10.8	10.8		61.7	61.7		61.7	61.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.77	0.77		0.77	0.77	
v/c Ratio	0.11	0.66		0.45	0.40		0.10	0.30		0.10	0.42	
Control Delay	29.2	34.7		53.1	36.8		4.7	5.1		1.7	3.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.2	34.7		53.1	36.8		4.7	5.1		1.7	3.2	
LOS	C	C		D	D		A	A		A	A	
Approach Delay		34.2			41.9			5.1			3.1	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	8	62		25	38		4	106		1	12	
Queue Length 95th (ft)	24	115		m46	m75		m19	149		m10	260	
Internal Link Dist (ft)		353			293			566			336	
Turn Bay Length (ft)	165			125			125			200		
Base Capacity (vph)	331	483		207	481		329	1415		708	2703	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.37		0.23	0.21		0.10	0.30		0.10	0.42	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												
Actuated Cycle Length: 80												
Offset: 61 (76%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												

Lanes, Volumes, Timings

228: Jadwin Ave & Knight St

11/25/2019

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 9.5

Intersection LOS: A

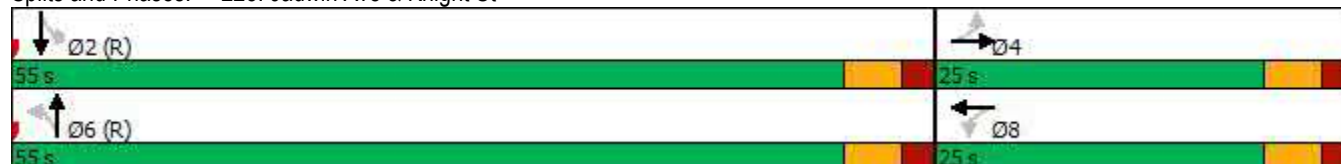
Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 228: Jadwin Ave & Knight St



Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	19	200	17	49	12	89	220	8	8	894	161
Future Volume (vph)	186	19	200	17	49	12	89	220	8	8	894	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		230	0		0	140		0	125		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor			0.98					1.00			1.00	
Frt			0.850		0.980			0.995			0.977	
Flt Protected	0.950				0.989		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1805	0	1770	1852	0	1770	3446	0
Flt Permitted	0.950				0.989		0.172			0.578		
Satd. Flow (perm)	1770	1863	1545	0	1805	0	320	1852	0	1077	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			220		11			3			30	
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		1684			202			605			646	
Travel Time (s)		38.3			5.5			13.8			14.7	
Confl. Peds. (#/hr)			9						2			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	204	21	220	19	54	13	98	242	9	9	982	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	21	220	0	86	0	98	251	0	9	1159	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3	3	1	2		1	3		1	3	
Detector Template												
Leading Detector (ft)	220	220	220	60	150		60	240		60	240	
Trailing Detector (ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	6	6	6	59	6		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	107	107	107		144			117			117	
Detector 2 Size(ft)	6	6	6		6			6			6	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0		0.0			0.0			0.0	
Detector 3 Position(ft)	214	214	214					234			234	

Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6	6					6			6	
Detector 3 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0	0.0					0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			6			2	
Permitted Phases			4				6			2		
Detector Phase	4	4	4	8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		21.5	21.5		24.5	24.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		34.0	34.0		34.0	34.0	
Total Split (%)	28.8%	28.8%	28.8%	28.8%	28.8%		42.5%	42.5%		42.5%	42.5%	
Maximum Green (s)	17.5	17.5	17.5	17.5	17.5		28.5	28.5		28.5	28.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	3.5	3.5	3.5		3.5		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	2.0	2.0		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0	9.0	9.0	9.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0		7.0	7.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	14.3	14.3	14.3		9.8		47.4	47.4		47.4	47.4	
Actuated g/C Ratio	0.18	0.18	0.18		0.12		0.59	0.59		0.59	0.59	
v/c Ratio	0.65	0.06	0.48		0.37		0.52	0.23		0.01	0.56	
Control Delay	39.5	25.3	7.8		32.3		17.1	4.7		5.2	5.7	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	39.5	25.3	7.8		32.3		17.1	4.7		5.2	5.7	
LOS	D	C	A		C		B	A		A	A	
Approach Delay		23.1			32.3			8.1			5.7	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	96	9	0		35		12	26		1	71	
Queue Length 95th (ft)	151	26	52		73		m35	m37		m3	90	
Internal Link Dist (ft)		1604			122			525			566	
Turn Bay Length (ft)	225		230				140			125		
Base Capacity (vph)	431	454	542		448		189	1098		638	2054	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.47	0.05	0.41		0.19		0.52	0.23		0.01	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 73 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

232: Jadwin Ave & Lee Blvd

11/25/2019

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.0

Intersection LOS: B

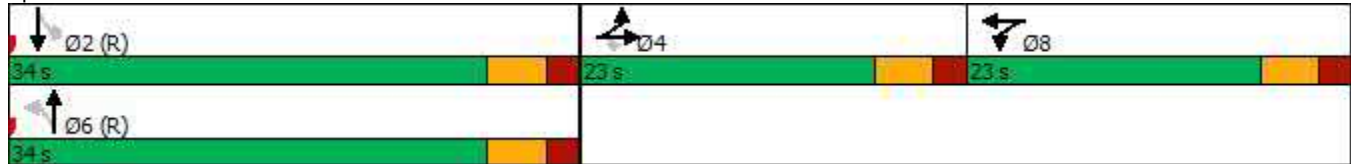
Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

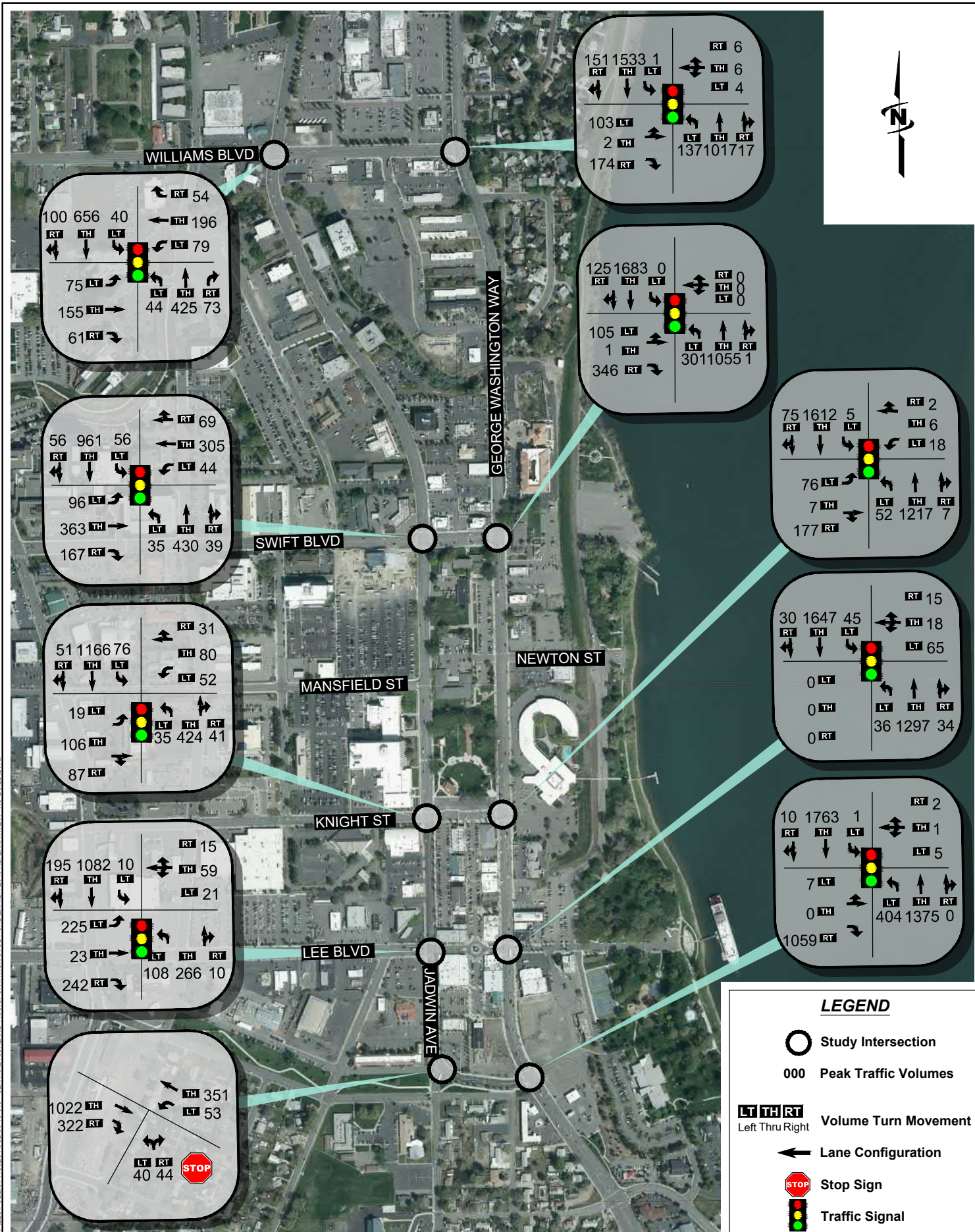
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 232: Jadwin Ave & Lee Blvd



Appendix C




















Forecasting of 2040 Traffic Volumes and Traffic Operations Analysis Results of All Alternatives



Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	2	174	4	6	6	137	1007	17	1	1533	151
Future Volume (vph)	103	2	174	4	6	6	137	1007	17	1	1533	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		180	0		0	150		0	115		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.98		0.99			1.00			1.00	
Frt			0.850		0.949			0.998			0.987	
Flt Protected		0.953			0.988		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1732	0	1770	3530	0	1770	3482	0
Flt Permitted		0.719			0.940		0.060			0.274		
Satd. Flow (perm)	0	1339	1549	0	1648	0	112	3530	0	510	3482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178		6			5			19	
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		936			453			1951			1517	
Travel Time (s)		21.3			12.4			38.0			29.6	
Confl. Peds. (#/hr)			5			5			5			5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	105	2	178	4	6	6	140	1028	17	1	1564	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	178	0	16	0	140	1045	0	1	1718	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	60	60		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	8.0		8.0	8.0	
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5		10.0	20.5		24.0	24.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0		15.0	79.0		64.0	64.0	
Total Split (%)	21.0%	21.0%	21.0%	21.0%	21.0%		15.0%	79.0%		64.0%	64.0%	
Maximum Green (s)	15.5	15.5	15.5	15.5	15.5		9.5	73.5		58.5	58.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.5		-1.5		-1.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		4.0	4.0		4.0		4.5	3.5		3.5	3.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	Max	Max	Max	Max	Max		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)		17.0	17.0		17.0		74.5	75.5		63.5	63.5	
Actuated g/C Ratio		0.17	0.17		0.17		0.74	0.76		0.64	0.64	
v/c Ratio		0.47	0.43		0.06		0.68	0.39		0.00	0.77	
Control Delay		30.3	9.2		27.8		37.4	3.7		8.0	16.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		30.3	9.2		27.8		37.4	3.7		8.0	16.5	
LOS		C	A		C		D	A		A	B	
Approach Delay		17.1			27.8			7.7			16.5	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)		66	49		5		48	47		0	368	
Queue Length 95th (ft)		111	91		24		117	90		2	515	
Internal Link Dist (ft)		856			373			1871			1437	
Turn Bay Length (ft)			180				150			115		
Base Capacity (vph)		227	411		285		257	2666		323	2218	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.47	0.43		0.06		0.54	0.39		0.00	0.77	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 13.3

Intersection LOS: B

Intersection Capacity Utilization 82.2%

ICU Level of Service E




















Analysis Period (min) 15

Splits and Phases: 140: George Washington Way & Williams Ave/Hains Ave



Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1	346	0	0	0	301	1055	1	0	1683	125
Future Volume (vph)	105	1	346	0	0	0	301	1055	1	0	1683	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	0		0	180		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor			0.98								1.00	
Frt			0.850								0.990	
Flt Protected		0.953					0.950					
Satd. Flow (prot)	0	1775	1583	0	1863	0	1770	3539	0	0	3500	0
Flt Permitted		0.728					0.063					
Satd. Flow (perm)	0	1356	1549	0	1863	0	117	3539	0	0	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27								12	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		380			294			1388			1951	
Travel Time (s)		8.6			6.7			27.0			38.0	
Confl. Peds. (#/hr)			5									2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	1	364	0	0	0	317	1111	1	0	1772	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	364	0	0	0	317	1112	0	0	1904	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	10	10		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	9	9		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	pm+ov				pm+pt	NA			NA	
Protected Phases		4	1		8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	1	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	20.5	20.5	9.5	9.5	9.5		9.5	36.0		21.0	21.0	
Total Split (s)	21.0	21.0	20.0	21.0	21.0		20.0	79.0		59.0	59.0	
Total Split (%)	21.0%	21.0%	20.0%	21.0%	21.0%		20.0%	79.0%		59.0%	59.0%	
Maximum Green (s)	15.5	15.5	14.5	15.5	15.5		14.5	73.5		53.5	53.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.0		-1.5		-1.0	-2.0			-2.0	
Total Lost Time (s)		4.0	4.5		4.0		4.5	3.5			3.5	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0								6.0	6.0	
Flash Dont Walk (s)	9.0	9.0								9.0	9.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)		12.3	27.9				79.2	80.2			59.6	
Actuated g/C Ratio		0.12	0.28				0.79	0.80			0.60	
v/c Ratio		0.67	0.80				0.89	0.39			0.91	
Control Delay		40.3	33.0				47.2	4.6			20.1	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		40.3	33.0				47.2	4.6			20.1	
LOS		D	C				D	A			C	
Approach Delay		34.7						14.1			20.1	
Approach LOS		C						B			C	
Queue Length 50th (ft)		73	226				143	122			228	
Queue Length 95th (ft)		122	302				#314	211			#777	
Internal Link Dist (ft)		300			214			1308			1871	
Turn Bay Length (ft)			150				180					
Base Capacity (vph)		230	469				372	2838			2092	
Starvation Cap Reductn		0	1				0	0			0	
Spillback Cap Reductn		0	0				0	0			0	
Storage Cap Reductn		0	0				0	0			0	
Reduced v/c Ratio		0.49	0.78				0.85	0.39			0.91	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 18 (18%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

144: George Washington Way & Swift Blvd

11/25/2019

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 19.7

Intersection LOS: B

Intersection Capacity Utilization 96.6%

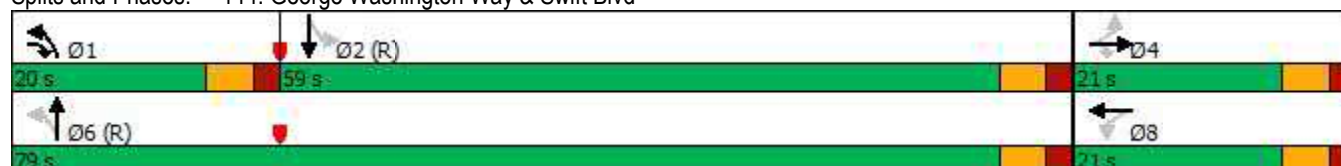
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.























Queue shown is maximum after two cycles.

Splits and Phases: 144: George Washington Way & Swift Blvd



Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	7	177	18	6	2	52	1217	7	5	1612	75
Future Volume (vph)	76	7	177	18	6	2	52	1217	7	5	1612	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	80		80	150		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99			1.00			1.00	
Frt		0.856			0.967			0.999			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1560	0	1770	1792	0	1770	3535	0	1770	3511	0
Flt Permitted	0.752			0.348			0.077			0.166		
Satd. Flow (perm)	1401	1560	0	648	1792	0	143	3535	0	309	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			2			1			11	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		373			460			670			1388	
Travel Time (s)		10.2			12.5			13.1			27.0	
Confl. Peds. (#/hr)			7			7			6			1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	85	8	199	20	7	2	58	1367	8	6	1811	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	207	0	20	9	0	58	1375	0	6	1895	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	160	160		60	60		60	240		60	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	77	77						117			117	
Detector 2 Size(ft)	6	6						6			6	
Detector 2 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0						0.0			0.0	
Detector 3 Position(ft)	154	154						234			234	

Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6						6			6	
Detector 3 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0						0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.5	25.5		24.5	24.5		24.0	24.0		21.0	21.0	
Total Split (s)	26.0	26.0		26.0	26.0		74.0	74.0		74.0	74.0	
Total Split (%)	26.0%	26.0%		26.0%	26.0%		74.0%	74.0%		74.0%	74.0%	
Maximum Green (s)	20.5	20.5		20.5	20.5		68.5	68.5		68.5	68.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-1.0	-2.0		-2.0	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.5	3.5		3.5	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	14.0	14.0		13.0	13.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	15.6	15.6		15.6	15.6		75.9	76.9		76.9	76.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.76	0.77		0.77	0.76	
v/c Ratio	0.39	0.77		0.20	0.03		0.54	0.51		0.03	0.71	
Control Delay	39.4	48.5		38.9	29.2		26.0	4.6		1.8	3.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.4	48.5		38.9	29.2		26.0	4.6		1.8	3.2	
LOS	D	D		D	C		C	A		A	A	
Approach Delay		45.8			35.9			5.5			3.2	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	50	104		11	4		10	124		0	71	
Queue Length 95th (ft)	94	177		31	17		m#72	144		m0	93	
Internal Link Dist (ft)		293			380			590			1308	
Turn Bay Length (ft)	125			80			150			150		
Base Capacity (vph)	308	368		142	395		108	2720		237	2686	
Starvation Cap Reductn	0	0		0	0		0	139		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	7	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.28	0.56		0.14	0.02		0.54	0.53		0.03	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 42 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

148: George Washington Way & Knight St

11/25/2019

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 7.7

Intersection LOS: A

Intersection Capacity Utilization 68.8%

ICU Level of Service C

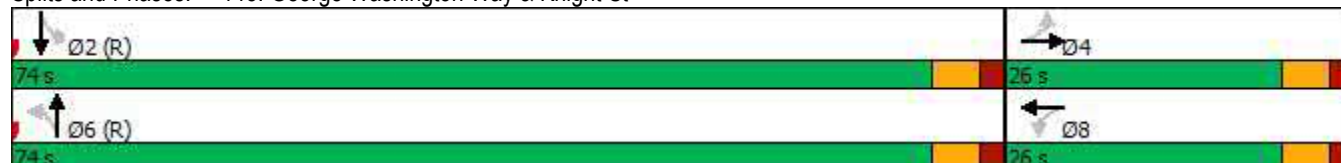
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 148: George Washington Way & Knight St



Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	65	18	15	36	1297	34	45	1647	30
Future Volume (vph)	0	0	0	65	18	15	36	1297	34	45	1647	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00							
Frt					0.979			0.996			0.997	
Flt Protected					0.968		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1760	0	1770	3525	0	1770	3529	0
Flt Permitted					0.968		0.074			0.134		
Satd. Flow (perm)	0	0	0	0	1760	0	138	3525	0	250	3529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			7			5	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		178			454			652			670	
Travel Time (s)		4.9			12.4			12.7			13.1	
Confl. Peds. (#/hr)						4						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	0	0	77	21	18	43	1544	40	54	1961	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	116	0	43	1584	0	54	1997	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)				60	60		60	240		60	240	
Trailing Detector (ft)				1	1		1	1		1	1	
Detector 1 Position(ft)				1	1		1	1		1	1	
Detector 1 Size(ft)				59	59		59	6		59	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			6			2	
Permitted Phases				8			6			2		
Detector Phase				8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)				4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)				23.5	23.5		24.0	24.0		24.0	24.0	
Total Split (s)				24.0	24.0		76.0	76.0		76.0	76.0	
Total Split (%)				24.0%	24.0%		76.0%	76.0%		76.0%	76.0%	
Maximum Green (s)				18.5	18.5		70.5	70.5		70.5	70.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)					-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)					4.0		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode				None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)				6.0	6.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)				12.0	12.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)				2	2		0	0		0	0	
Act Effect Green (s)					11.5		81.0	81.0		81.0	81.0	
Actuated g/C Ratio					0.12		0.81	0.81		0.81	0.81	
v/c Ratio					0.56		0.39	0.55		0.27	0.70	
Control Delay					47.9		14.9	4.5		3.5	2.4	
Queue Delay					0.0		0.0	0.0		0.0	0.0	
Total Delay					47.9		14.9	4.5		3.5	2.4	
LOS					D		B	A		A	A	
Approach Delay					47.9			4.8			2.5	
Approach LOS					D			A			A	
Queue Length 50th (ft)					67		5	127		3	64	
Queue Length 95th (ft)					103		25	234		m5	73	
Internal Link Dist (ft)		98			374			572			590	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)					358		111	2858		202	2860	
Starvation Cap Reductn					0		0	117		0	62	
Spillback Cap Reductn					0		0	0		0	62	
Storage Cap Reductn					0		0	0		0	0	
Reduced v/c Ratio					0.32		0.39	0.58		0.27	0.71	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 52 (52%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												

Lanes, Volumes, Timings

152: George Washington Way & Lee Blvd

11/25/2019

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 4.8

Intersection LOS: A

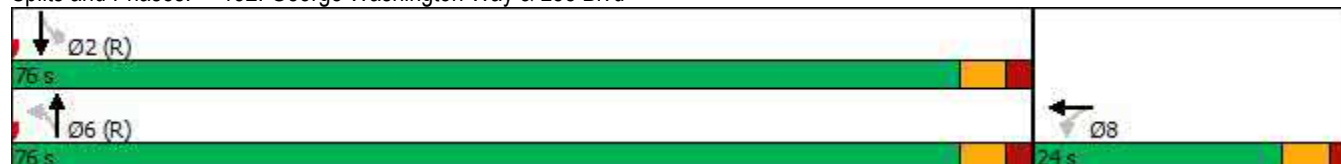
Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15




















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 152: George Washington Way & Lee Blvd



Lanes, Volumes, Timings
156: George Washington Way & Jadwin Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	1059	5	1	2	404	1375	0	1	1763	10
Future Volume (vph)	7	0	1059	5	1	2	404	1375	0	1	1763	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		0	0		0	90		0	150		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	65			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.966						0.999	
Flt Protected		0.950			0.970		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1745	0	1770	3539	0	1770	3536	0
Flt Permitted							0.058			0.159		
Satd. Flow (perm)	0	1863	1583	0	1799	0	108	3539	0	296	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			453		2						1	
Link Speed (mph)		25			20			35			35	
Link Distance (ft)		439			211			736			652	
Travel Time (s)		12.0			7.2			14.3			12.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	0	1164	5	1	2	444	1511	0	1	1937	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	1164	0	8	0	444	1511	0	1	1948	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		20	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	60	60	60	60	60		75	240		60	240	
Trailing Detector (ft)	1	1	1	1	1		25	1		1	1	
Detector 1 Position(ft)	1	1	1	1	1		25	1		1	1	
Detector 1 Size(ft)	59	59	59	59	59		50	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings
156: George Washington Way & Jadwin Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Free	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		Free	8			6			2		
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	20.5	20.5		20.5	20.5		9.5	27.0		21.0	21.0	
Total Split (s)	21.0	21.0		21.0	21.0		25.0	79.0		54.0	54.0	
Total Split (%)	21.0%	21.0%		21.0%	21.0%		25.0%	79.0%		54.0%	54.0%	
Maximum Green (s)	15.5	15.5		15.5	15.5		19.5	73.5		48.5	48.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		-1.0	-3.0		-2.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.5	2.5		3.5	3.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		5.8	100.0		5.7		93.4	97.4		69.4	69.4	
Actuated g/C Ratio		0.06	1.00		0.06		0.93	0.97		0.69	0.69	
v/c Ratio		0.07	0.74		0.08		1.01	0.44		0.00	0.79	
Control Delay		49.0	12.2		41.1		77.5	0.8		4.0	6.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay		49.0	12.2		41.1		77.5	0.8		4.0	6.9	
LOS		D	B		D		E	A		A	A	
Approach Delay		12.4			41.1			18.3			6.9	
Approach LOS		B			D			B			A	
Queue Length 50th (ft)		4	370		4		~228	0		0	71	
Queue Length 95th (ft)		m6	450		19		#451	85		m0	214	
Internal Link Dist (ft)		359			131			656			572	
Turn Bay Length (ft)							90			150		
Base Capacity (vph)		316	1583		307		441	3446		205	2453	
Starvation Cap Reductn		0	0		0		0	196		0	51	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.03	0.74		0.03		1.01	0.46		0.00	0.81	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 74 (74%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings

156: George Washington Way & Jadwin Ave

11/25/2019

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 12.6

Intersection LOS: B

Intersection Capacity Utilization 86.6%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

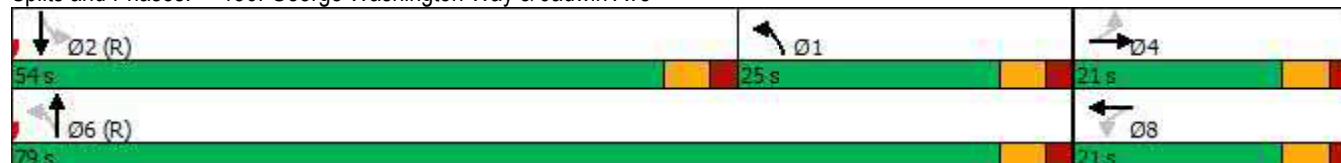
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 156: George Washington Way & Jadwin Ave















Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	155	61	79	196	54	44	425	73	40	656	100
Future Volume (vph)	75	155	61	79	196	54	44	425	73	40	656	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		155	160		150	125		0	150		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	3468	0
Flt Permitted	0.345			0.468			0.312			0.456		
Satd. Flow (perm)	643	1863	1583	872	1863	1583	581	1863	1583	849	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			69			61			83		22	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		1755			936			2073			1364	
Travel Time (s)		39.9			21.3			47.1			26.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	85	176	69	90	223	61	50	483	83	45	745	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	176	69	90	223	61	50	483	83	45	859	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	
Total Split (s)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	

Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	16.5	16.5	16.5	16.5	16.5	16.5	74.5	74.5	74.5	74.5	74.5	74.5
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.74	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.80	0.57	0.22	0.63	0.73	0.20	0.12	0.35	0.07	0.07	0.33	0.33
Control Delay	86.0	45.1	9.8	51.7	48.1	9.1	7.1	7.2	3.6	4.8	5.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.0	45.1	9.8	51.7	48.1	9.1	7.1	7.2	3.6	4.8	5.1	5.1
LOS	F	D	A	D	D	A	A	A	A	A	A	A
Approach Delay	48.2			42.6			6.7			5.1		
Approach LOS	D			D			A			A		
Queue Length 50th (ft)	53	105	0	51	129	5	11	123	0	6	78	78
Queue Length 95th (ft)	#107	155	33	m83	m181	m10	31	187	16	20	133	133
Internal Link Dist (ft)	1675			856			1993			1284		
Turn Bay Length (ft)	150		155	160		150	125			150		
Base Capacity (vph)	292	847	757	396	847	753	433	1388	1201	632	2589	2589
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.21	0.09	0.23	0.26	0.08	0.12	0.35	0.07	0.07	0.33	0.33

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 18.2

Intersection LOS: B

Intersection Capacity Utilization 55.2%

ICU Level of Service B

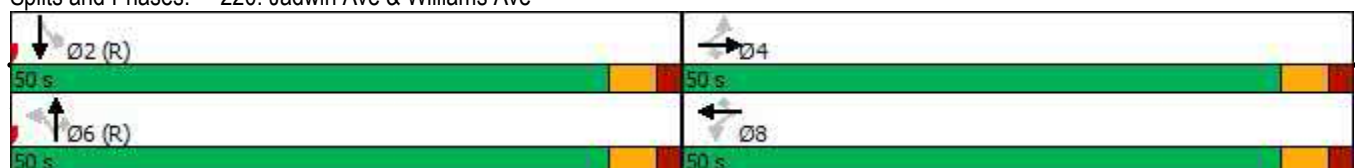
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 220: Jadwin Ave & Williams Ave



Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	363	167	44	305	69	35	430	39	56	961	56
Future Volume (vph)	96	363	167	44	305	69	35	430	39	56	961	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		200	100		0	120		200	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			65			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.972			0.988			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3440	0	1770	3497	0	1770	3511	0
Flt Permitted	0.400			0.196			0.201			0.446		
Satd. Flow (perm)	745	1863	1583	365	3440	0	374	3497	0	831	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		33			14			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1167			385			988			2073	
Travel Time (s)		26.5			8.8			22.5			47.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	403	186	49	339	77	39	478	43	62	1068	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	403	186	49	416	0	39	521	0	62	1130	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes									Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.5	20.5	20.5	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		55.0	55.0		55.0	55.0	

Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	39.5	39.5	39.5	39.5	39.5		49.5	49.5		49.5	49.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	26.6	26.6	26.6	26.6	26.6		64.4	64.4		64.4	64.4	
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27		0.64	0.64		0.64	0.64	
v/c Ratio	0.54	0.81	0.40	0.51	0.44		0.16	0.23		0.12	0.50	
Control Delay	40.4	47.2	20.3	41.2	28.6		14.9	10.7		8.2	9.2	
Queue Delay	0.0	0.2	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.4	47.4	20.3	41.2	28.6		14.9	10.7		8.2	9.2	
LOS	D	D	C	D	C		B	B		A	A	
Approach Delay		39.1			30.0			11.0			9.1	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	59	241	61	28	114		0	73		12	146	
Queue Length 95th (ft)	102	310	108	m32	m130		30	113		32	199	
Internal Link Dist (ft)		1087			305			908			1993	
Turn Bay Length (ft)	145		200	100			120			150		
Base Capacity (vph)	301	754	679	147	1412		240	2257		535	2264	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	47	0	0	0		0	39		18	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.36	0.57	0.27	0.33	0.29		0.16	0.23		0.12	0.50	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 94 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 20.0

Intersection LOS: B

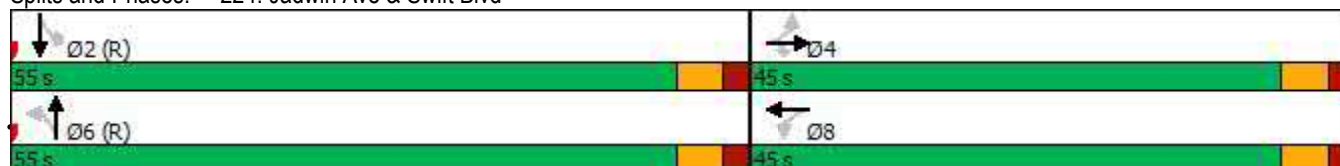
Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 224: Jadwin Ave & Swift Blvd















Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	106	87	52	80	31	35	424	41	76	1166	51
Future Volume (vph)	19	106	87	52	80	31	35	424	41	76	1166	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	125		0	125		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			30		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99			1.00			0.99	
Frt		0.932			0.958			0.987			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1694	0	1770	1774	0	1770	1830	0	1770	3498	0
Flt Permitted	0.572			0.308			0.169			0.436		
Satd. Flow (perm)	1065	1694	0	574	1774	0	315	1830	0	812	3498	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			19			10			9	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		433			373			646			409	
Travel Time (s)		11.8			10.2			14.7			9.3	
Confl. Peds. (#/hr)			23			6			11			39
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	21	119	98	58	90	35	39	476	46	85	1310	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	217	0	58	125	0	39	522	0	85	1367	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		3	3		3	3		3	3	
Detector Template												
Leading Detector (ft)	200	200		160	160		240	240		240	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		6	6		6	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	97	97		77	77		117	117		117	117	
Detector 2 Size(ft)	6	6		6	6		6	6		6	6	
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 3 Position(ft)	194	194		154	154		234	234		234	234	

Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6		6	6		6	6		6	6	
Detector 3 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		23.5	23.5		23.5	23.5		21.5	21.5	
Total Split (s)	31.0	31.0		31.0	31.0		69.0	69.0		69.0	69.0	
Total Split (%)	31.0%	31.0%		31.0%	31.0%		69.0%	69.0%		69.0%	69.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5		63.5	63.5		63.5	63.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	7.0	7.0		9.0	9.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	15.1	15.1		15.1	15.1		77.4	77.4		77.4	77.4	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.77	0.77		0.77	0.77	
v/c Ratio	0.13	0.75		0.67	0.44		0.16	0.37		0.14	0.50	
Control Delay	35.7	47.9		67.9	33.5		9.0	8.9		3.1	3.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.7	47.9		67.9	33.5		9.0	8.9		3.1	3.6	
LOS	D	D		E	C		A	A		A	A	
Approach Delay		46.8			44.4			8.9			3.6	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	12	109		33	54		13	180		8	100	
Queue Length 95th (ft)	31	171		m56	m86		m27	243		22	122	
Internal Link Dist (ft)		353			293			566			329	
Turn Bay Length (ft)	165			125			125			200		
Base Capacity (vph)	287	487		154	492		243	1418		628	2708	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.45		0.38	0.25		0.16	0.37		0.14	0.50	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green, Master Intersection												

Lanes, Volumes, Timings

228: Jadwin Ave & Knight St

11/25/2019

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 12.1

Intersection LOS: B

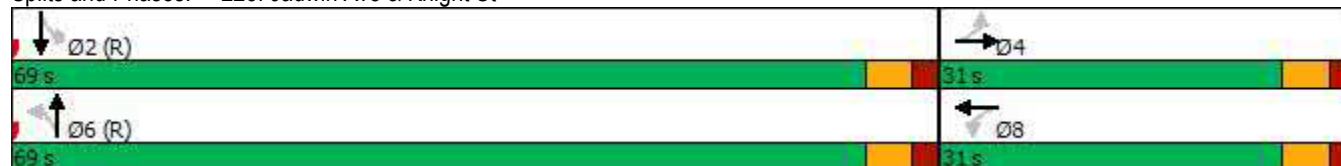
Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 228: Jadwin Ave & Knight St















Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	23	242	21	59	15	108	266	10	10	1082	195
Future Volume (vph)	225	23	242	21	59	15	108	266	10	10	1082	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		230	0		0	140		0	125		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor			0.97					1.00			1.00	
Frt			0.850		0.979			0.995			0.977	
Flt Protected	0.950				0.989		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1804	0	1770	1852	0	1770	3446	0
Flt Permitted	0.950				0.989		0.076			0.575		
Satd. Flow (perm)	1770	1863	1540	0	1804	0	142	1852	0	1071	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			266		8			3			25	
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		1684			202			605			646	
Travel Time (s)		38.3			5.5			13.8			14.7	
Confl. Peds. (#/hr)			9						2			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	247	25	266	23	65	16	119	292	11	11	1189	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	25	266	0	104	0	119	303	0	11	1403	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3	3	1	2		1	3		1	3	
Detector Template												
Leading Detector (ft)	220	220	220	60	150		60	240		60	240	
Trailing Detector (ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	6	6	6	59	6		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	107	107	107		144			117			117	
Detector 2 Size(ft)	6	6	6		6			6			6	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0		0.0			0.0			0.0	
Detector 3 Position(ft)	214	214	214					234			234	

Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6	6					6			6	
Detector 3 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0	0.0					0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		1	6			2	
Permitted Phases			4				6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	21.5		24.5	24.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	54.0		44.0	44.0	
Total Split (%)	23.0%	23.0%	23.0%	23.0%	23.0%		10.0%	54.0%		44.0%	44.0%	
Maximum Green (s)	17.5	17.5	17.5	17.5	17.5		4.5	48.5		38.5	38.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	3.5	3.5	3.5		3.5		3.5	3.5		3.5	3.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	2.0	2.0		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0			7.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)	17.5	17.5	17.5		11.7		60.3	60.3		48.8	48.8	
Actuated g/C Ratio	0.18	0.18	0.18		0.12		0.60	0.60		0.49	0.49	
v/c Ratio	0.80	0.08	0.55		0.48		0.55	0.27		0.02	0.83	
Control Delay	58.9	33.8	9.0		44.5		32.2	26.2		14.6	21.9	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	58.9	33.8	9.0		44.5		32.2	26.2		14.6	21.9	
LOS	E	C	A		D		C	C		B	C	
Approach Delay		33.1			44.5			27.9			21.8	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	148	13	0		58		64	153		2	255	
Queue Length 95th (ft)	#253	36	67		106		m70	m162		m6	#426	
Internal Link Dist (ft)		1604			122			525			566	
Turn Bay Length (ft)	225		230				140			125		
Base Capacity (vph)	345	363	514		358		218	1118		522	1693	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.72	0.07	0.52		0.29		0.55	0.27		0.02	0.83	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 16 (16%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												

Lanes, Volumes, Timings 232: Jadwin Ave & Lee Blvd

11/25/2019

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 26.3

Intersection LOS: C

Intersection Capacity Utilization 71.3%

ICU Level of Service C

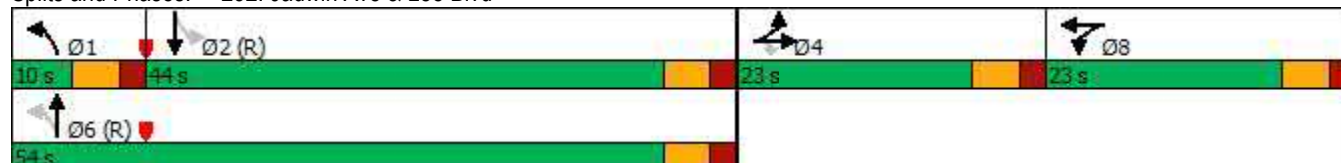
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.












m Volume for 95th percentile queue is metered by upstream signal.

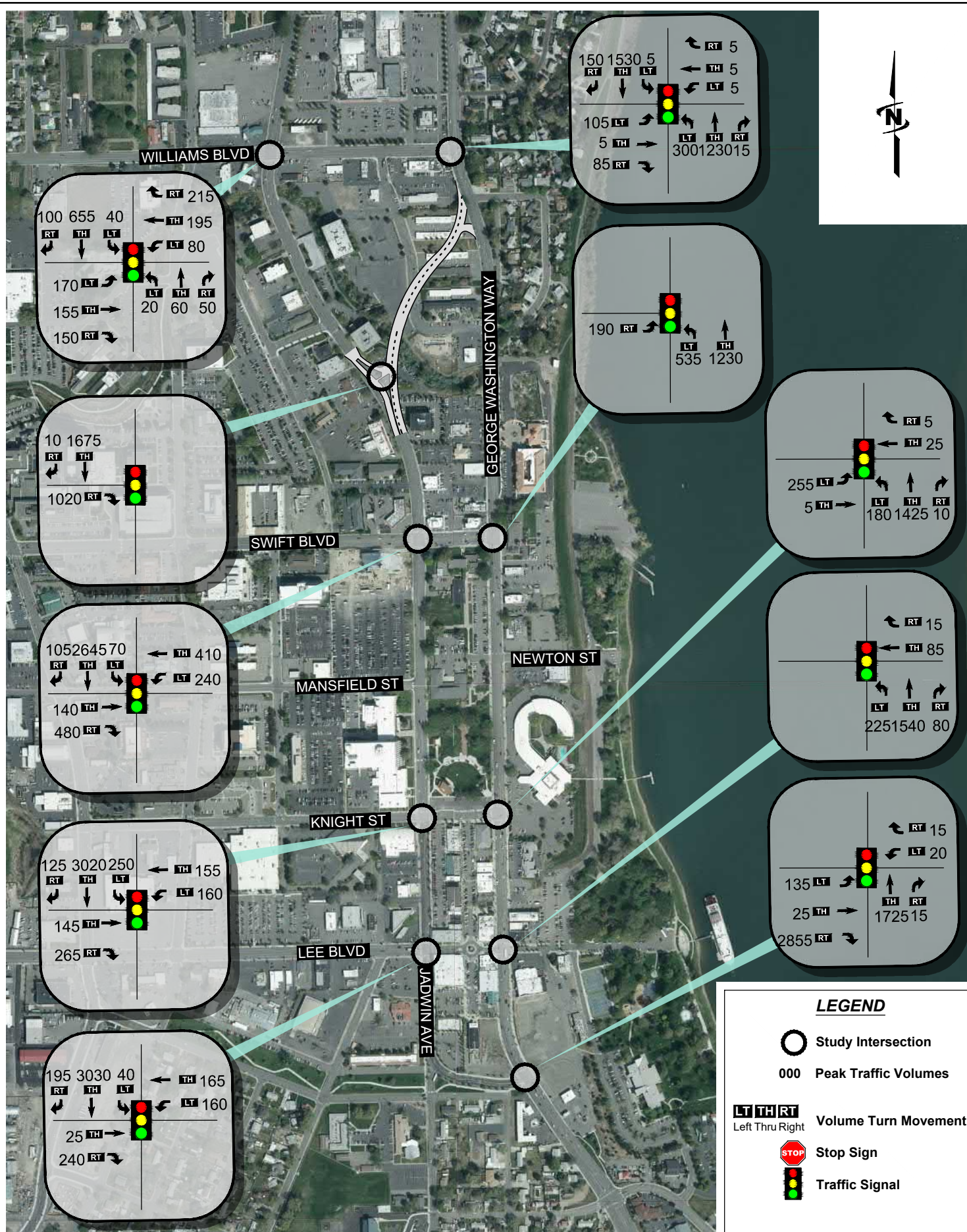
Splits and Phases: 232: Jadwin Ave & Lee Blvd



Lanes, Volumes, Timings
822: Jadwin Ave

11/25/2019

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	44	53	351	1022	322
Future Volume (vph)	40	44	53	351	1022	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			190
Storage Lanes	1	0	1			0
Taper Length (ft)	25		70			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.929					0.850
Flt Protected	0.977		0.950			
Satd. Flow (prot)	1691	0	1770	1863	1863	1583
Flt Permitted	0.977		0.950			
Satd. Flow (perm)	1691	0	1770	1863	1863	1583
Link Speed (mph)	30			25	30	
Link Distance (ft)	539			439	605	
Travel Time (s)	12.3			12.0	13.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	49	59	390	1136	358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	0	59	390	1136	358
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	65.4%			ICU Level of Service C		
Analysis Period (min)	15					



COUPLET PROHIBITED MOVEMENTS TO ACCOUNT FOR

















No-Build

Volume

Number	Movement	Adjustments
1533	G/Williams SBT	Subtract from thrus in corridor and add to Jadwin Corridor
174	G/Williams EBR	keep 50%, 50% to J/Williams EBR and J/new J Tee SBT and EBR
97	G SB betw Williams & Swift	100% to NB U at G/Williams, lose 60% (in SBT already, will access businesses from Jadwin), then 40% to SBT at new Jadwin T, J/Swift SBL and G/Swift EBL
125	G/Swift SBR	lose 60% (in SBT already) add 40% to J/Swift SBR, subtract from Jadwin corridor south of Swift
0	G/Swift SBL	Zero today
346	G/Swift EBR	lose 10% from internal, subtract 90% from J/Swift EBT, add 90% to J/Swift EBR, J/Knight SBT, J/Lee SBT, J/J Tee SBT, G/J EBR, subtract from SBT
0	G/Swift WBL	Zero today
338	G SB betw Swift & Knight	50% to G/Swift NBL, J/Swift WBL, 50% to J/Knight SBL and G/Knight EBL
75	G/Knight SBR	100% to J/Knight SBR, subtract through Jadwin Corridor SB
5	G/Knight SBL	100% to J/Knight SBL and G/Knight EBT
177	G/Knight EBR	100% to J.Knight EBR, J/Lee SBT, J/J Tee SBT, G/J EBR
18	G/Knight WBL	100% to G/Knight WBT, J/Knight WBL, J/Lee SBT, J/J Tee SBT, G/J EBR
85	G SB betw Knight & Lee	100% to G/Knight NBL, J/Knight WBL, J/Lee SBT, J/J Tee SBT, G/J EBL subtract from J/Lee SBT, J/J Tee SBT, G/J EBR
30	G/Lee SBR	100% to J/Lee SBL, subtract from J/Lee SBT, J/J Tee SBT, G/J EBR
45	G/Lee SBL	100% G/J EBL, G/Lee NBR
0	G/Lee EBR	Zero today
65	G/Lee WBL	100% G/Lee WBT, J/Lee WBL, J/J Tee SBT, G/J EBR, subtract fom J/Lee SBT, J/J Tee SBT, G/J EBR
62	G SB betw Lee & Jadwin	100% to G/Lee NBL, J/Lee WBL
10	G/Jadwin SBR	100% to G/Lee NBL, J/Lee WBT
24	G/Jadwin SBL	calculate trip gen for condos, proportionately to SB Corridor and G/J EBT, G/J NBR
14	G/Jadwin WBL	calculate trip gen for condos, proportionately to G/J WBR, G/Lee WBT, J/Lee WBL, J/ J Tee SBT, G/J EBR
404	G/Jadwin NBL	lose 13%, 87% to G/J NBT (and NBT in corridor less NBL that are added), with remaining 40% to G/Williams NBL, J/Williams WBR
53	J NB betw Swift & Williams	too low, ignore, absorbed outside study area
69	J/Swift WBR	100% to J/Swift WBT
96	J/Swift EBL	50% to Stevens and J/Williams EBL, 50% to J/Swift EBT, G/Swift EBL, G/Williams NBT
35	J/Swift NBL	100% to J/Swift WBT, G/Swift NBL, subtract from G/Swift NBT, G/Williams NBT
39	J/Swift NBR	100% to J/Swift EBT (assume they were in the EBL at J/Lee)
29	J NB betw Knight & Swift	100% to G/Swift NBL, J/Swift WBL, subtract from J/Swift SBT, J/Knight SBT, J/Lee SBT, J/J Tee SBT, G/J EBR
31	J/Knight WBR	100% J/Knight WBT
19	J/Knight EBL	dismiss to Stevens
35	J/Knight NBL	100% to G/Knight NBL, J/Knight WBT, subtract G/Knight NBT, G/Swift NBT, G/Williams NBT
41	J/Knight NBR	100% to J/Knight EBT (assume they were in the EBL at J/Lee)
6	J NB betw Lee & Knight	100% G/Knight NBL, J/Knight WBL
15	J/Lee WBR	50% to G/Knight EBL, 50% to J/Knight WBT
225	J/Lee EBL	20% accounted for in NBR at J/Lee and 20% at NBR J/Knight, 20% in other corridor movements, 20% lost to Stevens, 20% to J/Williams EBL
108	J/Lee NBL	100% to G/Lee NBL, J/Lee WBT
10	J/Lee NBR	100% to G/Lee NBL
40	J/J Tee NBL from T	lose to network west
53	J/J Tee NBL	lose to G/Bradley NBL

Lanes, Volumes, Timings
3: George Washington Way & Jadwin Ave













12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	24	2853	0	0	13	0	1726	14	0	0	0
Future Volume (vph)	137	24	2853	0	0	13	0	1726	14	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	1		3	0		1	0		0	0		0
Taper Length (ft)	100			25			25			25		
Lane Util. Factor	1.00	1.00	0.76	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Frt			0.850			0.865		0.999				
Flt Protected		0.959										
Satd. Flow (prot)	0	1786	3610	0	0	1611	0	5080	0	0	0	0
Flt Permitted		0.959										
Satd. Flow (perm)	0	1786	3610	0	0	1611	0	5080	0	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30	2487			30		2				
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		692			187			493			862	
Travel Time (s)		13.5			4.3			9.6			16.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	152	27	3170	0	0	14	0	1918	16	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	179	3170	0	0	14	0	1934	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1			1		2				
Detector Template	Left	Thru	Right			Right		Thru				
Leading Detector (ft)	20	100	20			20		100				
Trailing Detector (ft)	0	0	0			0		0				
Detector 1 Position(ft)	0	0	0			0		0				
Detector 1 Size(ft)	20	6	20			20		6				
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0				
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0				
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0				
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA	Perm			Perm		NA				
Protected Phases		4						6				
Permitted Phases	4		4			8						

Lanes, Volumes, Timings

3: George Washington Way & Jadwin Ave

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4			8		6				
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0			4.0		4.0				
Minimum Split (s)	21.0	21.0	21.0			21.0		21.0				
Total Split (s)	40.0	40.0	40.0			40.0		50.0				
Total Split (%)	44.4%	44.4%	44.4%			44.4%		55.6%				
Maximum Green (s)	34.5	34.5	34.5			34.5		44.5				
Yellow Time (s)	3.5	3.5	3.5			3.5		3.5				
All-Red Time (s)	2.0	2.0	2.0			2.0		2.0				
Lost Time Adjust (s)		0.0	0.0			0.0		0.0				
Total Lost Time (s)		5.5	5.5			5.5		5.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5			0.5		0.5				
Recall Mode	None	None	None			None		C-Max				
Walk Time (s)	6.0	6.0	6.0			6.0		6.0				
Flash Dont Walk (s)	9.0	9.0	9.0			9.0		9.0				
Pedestrian Calls (#/hr)	0	0	0			0		0				
Act Effct Green (s)		34.5	34.5			34.5		44.5				
Actuated g/C Ratio		0.38	0.38			0.38		0.49				
v/c Ratio		0.25	1.09			0.02		0.77				
Control Delay		16.8	53.8			2.8		21.2				
Queue Delay		0.0	0.0			0.0		1.3				
Total Delay		16.8	53.8			2.8		22.5				
LOS		B	D			A		C				
Approach Delay		51.8			2.8			22.5				
Approach LOS		D			A			C				
Queue Length 50th (ft)		56	~479			0		313				
Queue Length 95th (ft)		103	#592			6		375				
Internal Link Dist (ft)		612			107			413			782	
Turn Bay Length (ft)												
Base Capacity (vph)		703	2917			636		2512				
Starvation Cap Reductn		0	0			0		353				
Spillback Cap Reductn		0	0			0		0				
Storage Cap Reductn		0	0			0		0				
Reduced v/c Ratio		0.25	1.09			0.02		0.90				
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 72 (80%), Referenced to phase 6:NBT, Start of Green												
Natural Cycle: 100												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.09												
Intersection Signal Delay: 41.0						Intersection LOS: D						
Intersection Capacity Utilization 71.1%						ICU Level of Service C						
Analysis Period (min) 15												
~ Volume exceeds capacity, queue is theoretically infinite.												

Lanes, Volumes, Timings

3: George Washington Way & Jadwin Ave

12/17/2019

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















Splits and Phases: 3: George Washington Way & Jadwin Ave



Lanes, Volumes, Timings

10: George Washington Way & Guyer Ave/Gowen Ave






















12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (vph)	0	0	0	0	0	0	97	1545	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	97	1545	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt												
Flt Protected								0.997				
Satd. Flow (prot)	0	1863	0	0	1863	0	0	5070	0	0	0	0
Flt Permitted								0.997				
Satd. Flow (perm)	0	1863	0	0	1863	0	0	5070	0	0	0	0
Link Speed (mph)	25				25				35			
Link Distance (ft)	340				224				1318			
Travel Time (s)	9.3				6.1				25.7			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	0	0	108	1717	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	1825	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0				0				0			
Link Offset(ft)	0				0				0			
Crosswalk Width(ft)	16				16				16			
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Stop		Stop				Free				Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization 77.8%ICU Level of Service D												
Analysis Period (min) 15												

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	2	87	4	6	6	298	1228	17	1	1533	151
Future Volume (vph)	103	2	87	4	6	6	298	1228	17	1	1533	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		180			0	0		0	115		0
Storage Lanes	0		1			0	1		0	1		0
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97		0.99			1.00				
Frt			0.850		0.949			0.998			0.985	
Flt Protected		0.953			0.988		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1733	0	1770	3530	0	1770	3486	0
Flt Permitted		0.719			0.940		0.080			0.169		
Satd. Flow (perm)	0	1339	1528	0	1649	0	149	3530	0	315	3486	0
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					6			4				
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		936			453			626			1517	
Travel Time (s)		21.3			12.4			12.2			29.6	
Confl. Peds. (#/hr)			5			5			5			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.90
Adj. Flow (vph)	105	2	89	4	6	6	304	1253	17	1	1564	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	89	0	16	0	304	1270	0	1	1732	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	60	60		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

12/17/2019



Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	8.0		8.0	8.0	
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5		9.5	39.0		24.0	24.0	
Total Split (s)	20.5	20.5	20.5	20.5	20.5		19.5	69.5		50.0	50.0	
Total Split (%)	22.8%	22.8%	22.8%	22.8%	22.8%		21.7%	77.2%		55.6%	55.6%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		14.0	64.0		44.5	44.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.5		-1.5		-1.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		4.0	4.0		4.0		4.5	3.5		3.5	3.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	Max	Max	Max	Max	Max		None	Max		Max	Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effect Green (s)		16.5	16.5		16.5		65.0	66.0		46.5	46.5	
Actuated g/C Ratio		0.18	0.18		0.18		0.72	0.73		0.52	0.52	
v/c Ratio		0.44	0.32		0.05		0.81	0.49		0.01	0.96	
Control Delay		39.1	35.5		24.2		45.5	5.7		11.0	35.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		39.1	35.5		24.2		45.5	5.7		11.0	35.8	
LOS		D	D		C		D	A		B	D	
Approach Delay		37.4			24.3			13.4			35.8	
Approach LOS		D			C			B			D	
Queue Length 50th (ft)		54	44		5		113	130		0	472	
Queue Length 95th (ft)		106	89		22		#246	167		3	#659	
Internal Link Dist (ft)		856			373			546			1437	
Turn Bay Length (ft)			180							115		
Base Capacity (vph)		245	280		307		377	2589		162	1801	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.44	0.32		0.05		0.81	0.49		0.01	0.96	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Natural Cycle: 90												

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

12/17/2019

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 25.8

Intersection LOS: C

Intersection Capacity Utilization 86.7%

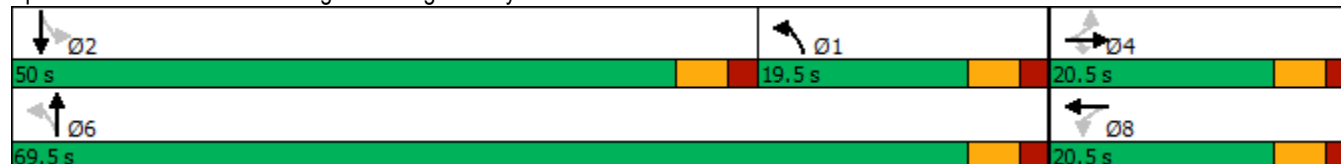
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.


















Queue shown is maximum after two cycles.

Splits and Phases: 140: George Washington Way & Williams Ave/Hains Ave















Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1	0	0	0	0	534	1229	1	0	0	0
Future Volume (vph)	192	1	0	0	0	0	534	1229	1	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	0		0	180		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor												
Flt												
Flt Protected		0.953						0.985				
Satd. Flow (prot)	0	1775	0	0	1863	0	0	5009	0	0	0	0
Flt Permitted		0.727						0.985				
Satd. Flow (perm)	0	1354	0	0	1863	0	0	5009	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		380			294			1388			1318	
Travel Time (s)		8.6			6.7			27.0			25.7	
Confl. Peds. (#/hr)			5									2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	202	1	0	0	0	0	562	1294	1	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	0	0	0	1857	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	3				
Detector Template												
Leading Detector (ft)	5	60			10		60	240				
Trailing Detector (ft)	0	1			1		1	1				
Detector 1 Position(ft)	0	1			1		1	1				
Detector 1 Size(ft)	5	59			9		59	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)								117				
Detector 2 Size(ft)								6				
Detector 2 Type								Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)								0.0				
Detector 3 Position(ft)								234				

Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6				
Detector 3 Type								Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)								0.0				
Turn Type	Perm	NA					Perm	NA				
Protected Phases		4			8			6				
Permitted Phases	4						6					
Detector Phase	4	4			8		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		10.0	10.0				
Minimum Split (s)	20.5	20.5			9.5		36.0	36.0				
Total Split (s)	33.0	33.0			33.0		57.0	57.0				
Total Split (%)	36.7%	36.7%			36.7%		63.3%	63.3%				
Maximum Green (s)	27.5	27.5			27.5		51.5	51.5				
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		-1.5			-1.5			-2.0				
Total Lost Time (s)		4.0			4.0			3.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5			0.5		0.5	0.5				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	6.0	6.0										
Flash Dont Walk (s)	9.0	9.0										
Pedestrian Calls (#/hr)	0	0										
Act Effct Green (s)		18.1						64.4				
Actuated g/C Ratio		0.20						0.72				
v/c Ratio		0.75						0.52				
Control Delay		49.8						2.3				
Queue Delay		0.0						0.0				
Total Delay		49.8						2.3				
LOS		D						A				
Approach Delay		49.8						2.3				
Approach LOS		D						A				
Queue Length 50th (ft)		109						53				
Queue Length 95th (ft)		167						65				
Internal Link Dist (ft)		300			214			1308			1238	
Turn Bay Length (ft)												
Base Capacity (vph)		436						3586				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.47						0.52				
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 28 (31%), Referenced to phase 6:NBTL, Start of Green												

Lanes, Volumes, Timings

144: George Washington Way & Swift Blvd

12/17/2019

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 7.0

Intersection LOS: A

Intersection Capacity Utilization 54.4%

ICU Level of Service A



















Analysis Period (min) 15

Splits and Phases: 144: George Washington Way & Swift Blvd















Lanes, Volumes, Timings
148: George Washington Way & Knight St

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (vph)	253	5	0	0	24	2	178	1426	7	0	0	0
Future Volume (vph)	253	5	0	0	24	2	178	1426	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	80		80	150		0	150		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor					1.00			1.00				
Frt					0.991			0.999				
Flt Protected	0.950							0.995				
Satd. Flow (prot)	1770	1863	0	0	1843	0	0	5054	0	0	0	0
Flt Permitted	0.738							0.995				
Satd. Flow (perm)	1375	1863	0	0	1843	0	0	5054	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					2			1				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		373			460			670			1388	
Travel Time (s)		10.2			12.5			13.1			27.0	
Confl. Peds. (#/hr)			7			7			6			1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	284	6	0	0	27	2	200	1602	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	284	6	0	0	29	0	0	1810	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3			1		1	3				
Detector Template												
Leading Detector (ft)	160	160			60		60	240				
Trailing Detector (ft)	1	1			1		1	1				
Detector 1 Position(ft)	1	1			1		1	1				
Detector 1 Size(ft)	6	6			59		59	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)	77	77						117				
Detector 2 Size(ft)	6	6						6				
Detector 2 Type	Cl+Ex	Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0						0.0				
Detector 3 Position(ft)	154	154						234				

Lanes, Volumes, Timings
148: George Washington Way & Knight St

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6						6				
Detector 3 Type	Cl+Ex	Cl+Ex						Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0						0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			8			6				
Permitted Phases	4						6					
Detector Phase	4	4			8		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		10.0	10.0				
Minimum Split (s)	25.5	25.5			24.5		24.0	24.0				
Total Split (s)	39.0	39.0			39.0		51.0	51.0				
Total Split (%)	43.3%	43.3%			43.3%		56.7%	56.7%				
Maximum Green (s)	33.5	33.5			33.5		45.5	45.5				
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)	-1.5	-1.5			-1.5			-2.0				
Total Lost Time (s)	4.0	4.0			4.0			3.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5			0.5		0.5	0.5				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	6.0	6.0			6.0		8.0	8.0				
Flash Dont Walk (s)	14.0	14.0			13.0		9.0	9.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	23.5	23.5			23.5			59.0				
Actuated g/C Ratio	0.26	0.26			0.26			0.66				
v/c Ratio	0.79	0.01			0.06			0.55				
Control Delay	46.2	20.4			20.7			1.8				
Queue Delay	0.1	0.0			0.0			0.0				
Total Delay	46.3	20.4			20.7			1.8				
LOS	D	C			C			A				
Approach Delay		45.7			20.7			1.8				
Approach LOS		D			C			A				
Queue Length 50th (ft)	150	3			12			30				
Queue Length 95th (ft)	209	10			28			41				
Internal Link Dist (ft)		293			380			590			1308	
Turn Bay Length (ft)	125											
Base Capacity (vph)	534	724			717			3313				
Starvation Cap Reductn	13	0			0			0				
Spillback Cap Reductn	0	0			0			0				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.55	0.01			0.04			0.55				
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 15 (17%), Referenced to phase 6:NBTL, Start of Green												

Lanes, Volumes, Timings

148: George Washington Way & Knight St

12/17/2019

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 8.1

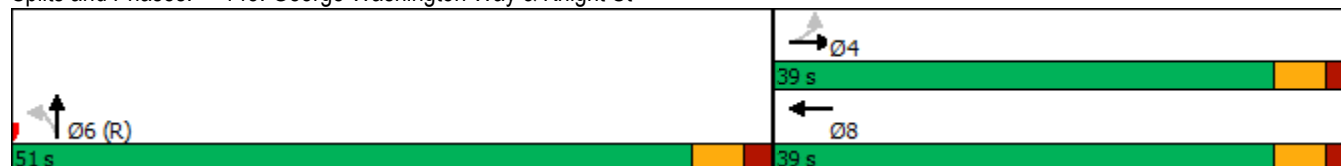
Intersection LOS: A

Intersection Capacity Utilization 118.9%

ICU Level of Service H




Analysis Period (min) 15

Splits and Phases: 148: George Washington Way & Knight St















Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	83	15	226	1541	79	0	0	0
Future Volume (vph)	0	0	0	0	83	15	226	1541	79	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor					1.00							
Frt					0.979			0.994				
Flt Protected								0.994				
Satd. Flow (prot)	0	0	0	0	1819	0	0	5024	0	0	0	0
Flt Permitted								0.994				
Satd. Flow (perm)	0	0	0	0	1819	0	0	5024	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					10			77				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		178			454			862			670	
Travel Time (s)		4.9			12.4			16.8			13.1	
Confl. Peds. (#/hr)						4						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	0	0	0	99	18	269	1835	94	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	117	0	0	2198	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					1		1	3				
Detector Template												
Leading Detector (ft)					60		60	240				
Trailing Detector (ft)					1		1	1				
Detector 1 Position(ft)					1		1	1				
Detector 1 Size(ft)					59		59	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Detector 2 Position(ft)								117				
Detector 2 Size(ft)								6				
Detector 2 Type								Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)								0.0				
Detector 3 Position(ft)								234				

Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6				
Detector 3 Type								Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)								0.0				
Turn Type					NA		Perm	NA				
Protected Phases					8			6				
Permitted Phases							6					
Detector Phase					8		6	6				
Switch Phase												
Minimum Initial (s)					4.0		10.0	10.0				
Minimum Split (s)					23.5		24.0	24.0				
Total Split (s)					26.0		64.0	64.0				
Total Split (%)					28.9%		71.1%	71.1%				
Maximum Green (s)					20.5		58.5	58.5				
Yellow Time (s)					3.5		3.5	3.5				
All-Red Time (s)					2.0		2.0	2.0				
Lost Time Adjust (s)					-1.5			-2.0				
Total Lost Time (s)					4.0			3.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.5		0.5	0.5				
Recall Mode					None		C-Max	C-Max				
Walk Time (s)					6.0		7.0	7.0				
Flash Dont Walk (s)					12.0		9.0	9.0				
Pedestrian Calls (#/hr)					2		0	0				
Act Effct Green (s)					10.9			71.6				
Actuated g/C Ratio					0.12			0.80				
v/c Ratio					0.51			0.55				
Control Delay					40.4			1.5				
Queue Delay					0.0			0.0				
Total Delay					40.4			1.5				
LOS					D			A				
Approach Delay					40.4			1.5				
Approach LOS					D			A				
Queue Length 50th (ft)					59			22				
Queue Length 95th (ft)					91			31				
Internal Link Dist (ft)		98			374			782			590	
Turn Bay Length (ft)												
Base Capacity (vph)					452			4013				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.26			0.55				
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 79 (88%), Referenced to phase 6:NBTL, Start of Green												

Lanes, Volumes, Timings

152: George Washington Way & Lee Blvd

12/17/2019

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 3.5

Intersection LOS: A

Intersection Capacity Utilization 49.3%

ICU Level of Service A

Analysis Period (min) 15










Splits and Phases: 152: George Washington Way & Lee Blvd



Lanes, Volumes, Timings

























6: Jadwin Ave

12/17/2019

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	0	1021	0	0	1663	10
Future Volume (vph)	0	1021	0	0	1663	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	0	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	0	3536	0
Link Speed (mph)	35			35	35	
Link Distance (ft)	1190			997	380	
Travel Time (s)	23.2			19.4	7.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1134	0	0	1848	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1134	0	0	1859	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	116.2%			ICU Level of Service H		
Analysis Period (min)	15					













Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	155	148	79	196	216	22	61	51	40	656	100
Future Volume (vph)	168	155	148	79	196	216	22	61	51	40	656	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		155	160		150	125		0	150		0
Storage Lanes	2		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850			0.850		0.932				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3299	0	1770	1863	1583
Flt Permitted	0.950			0.646			0.198			0.673		
Satd. Flow (perm)	3433	1863	1583	1203	1863	1583	369	3299	0	1254	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			245			57			116
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1755			936			1190			1364	
Travel Time (s)		39.9			21.3			23.2			26.6	
Peak Hour Factor	0.88	0.88	0.90	0.90	0.88	0.88	0.90	0.90	0.90	0.88	0.90	0.88
Adj. Flow (vph)	191	176	164	88	223	245	24	68	57	45	729	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	176	164	88	223	245	24	125	0	45	729	114
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			6			2	
Permitted Phases			4	8		8	6			2		2

Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8	8	6	6		2	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0		21.0	21.0	21.0
Total Split (s)	13.0	34.0	34.0	21.0	21.0	21.0	41.0	41.0		41.0	41.0	41.0
Total Split (%)	17.3%	45.3%	45.3%	28.0%	28.0%	28.0%	54.7%	54.7%		54.7%	54.7%	54.7%
Maximum Green (s)	7.5	28.5	28.5	15.5	15.5	15.5	35.5	35.5		35.5	35.5	35.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	0.0	0.0	-1.0	-1.0	0.0	0.0		-1.0	0.0	0.0
Total Lost Time (s)	6.5	4.5	5.5	5.5	4.5	4.5	5.5	5.5		4.5	5.5	5.5
Lead/Lag	Lead			Lag			Lag					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Flash Dont Walk (s)		9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	0
Act Effect Green (s)	5.3	23.8	22.8	10.9	11.9	11.9	35.7	35.7		36.7	35.7	35.7
Actuated g/C Ratio	0.08	0.34	0.33	0.16	0.17	0.17	0.51	0.51		0.53	0.51	0.51
v/c Ratio	0.73	0.28	0.27	0.47	0.70	0.52	0.13	0.07		0.07	0.76	0.13
Control Delay	48.7	17.4	5.4	35.1	39.4	8.1	12.8	6.1		9.9	21.8	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.7	17.4	5.4	35.1	39.4	8.1	12.8	6.1		9.9	21.8	2.8
LOS	D	B	A	D	D	A	B	A		A	C	A
Approach Delay		24.9			24.9			7.2			18.7	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)	42	53	6	35	91	0	5	7		9	239	0
Queue Length 95th (ft)	#80	94	42	77	155	50	21	22		26	#486	23
Internal Link Dist (ft)		1675			856			1110			1284	
Turn Bay Length (ft)	150		155	160		150	125			150		
Base Capacity (vph)	322	794	736	269	444	564	189	1720		661	956	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.59	0.22	0.22	0.33	0.50	0.43	0.13	0.07		0.07	0.76	0.13

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 69.5

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 21.1

Intersection LOS: C

Intersection Capacity Utilization 63.4%

ICU Level of Service B

Analysis Period (min) 15

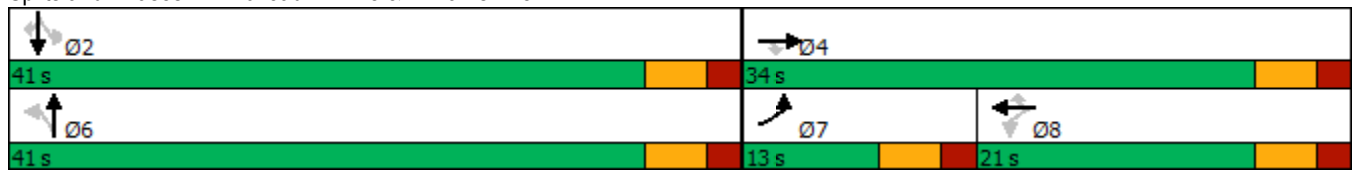
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 220: Jadwin Ave & Williams Ave













12/17/2019

Splits and Phases: 220: Jadwin Ave & Williams Ave















Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑↑	↑	↑↑						↑↑↑	
Traffic Volume (vph)	0	139	478	242	409	0	0	0	0	68	2646	106
Future Volume (vph)	0	139	478	242	409	0	0	0	0	68	2646	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		0	200		200	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Frt			0.850								0.994	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1863	2787	1770	3539	0	0	0	0	0	5050	0
Flt Permitted				0.636							0.999	
Satd. Flow (perm)	0	1863	2787	1185	3539	0	0	0	0	0	5050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			36								12	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1167			385			1397			997	
Travel Time (s)		26.5			8.8			27.2			19.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	154	531	269	454	0	0	0	0	76	2940	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	154	531	269	454	0	0	0	0	0	3134	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	2	
Detector Template		Thru	Right	Left	Thru					Left	Thru	
Leading Detector (ft)		100	20	20	100					20	100	
Trailing Detector (ft)		0	0	0	0					0	0	
Detector 1 Position(ft)		0	0	0	0					0	0	
Detector 1 Size(ft)		100	20	20	100					20	6	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 2 Position(ft)											94	
Detector 2 Size(ft)											6	
Detector 2 Type											Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)											0.0	
Turn Type		NA	Prot	Perm	NA					Perm	NA	
Protected Phases		4	4		8						2	
Permitted Phases				8						2		

Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4	8	8					2	2	
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Minimum Split (s)		21.0	21.0	21.0	21.0					21.0	21.0	
Total Split (s)		28.0	28.0	28.0	28.0					47.0	47.0	
Total Split (%)		37.3%	37.3%	37.3%	37.3%					62.7%	62.7%	
Maximum Green (s)		22.5	22.5	22.5	22.5					41.5	41.5	
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	
All-Red Time (s)		2.0	2.0	2.0	2.0					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						0.0	
Total Lost Time (s)		4.5	4.5	4.5	4.5						5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		0.5	0.5	0.5	0.5					0.5	0.5	
Recall Mode		None	None	None	None					C-Max	C-Max	
Walk Time (s)		6.0	6.0	6.0	6.0					6.0	6.0	
Flash Dont Walk (s)		9.0	9.0	9.0	9.0					9.0	9.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effct Green (s)		19.6	19.6	19.6	19.6						45.4	
Actuated g/C Ratio		0.26	0.26	0.26	0.26						0.61	
v/c Ratio		0.32	0.70	0.87	0.49						1.02	
Control Delay		22.9	28.1	53.4	24.6						40.6	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay		22.9	28.1	53.4	24.6						40.6	
LOS		C	C	D	C						D	
Approach Delay		27.0			35.3						40.6	
Approach LOS		C			D						D	
Queue Length 50th (ft)		56	114	115	91						~601	
Queue Length 95th (ft)		98	163	#221	126						#726	
Internal Link Dist (ft)		1087			305			1317			917	
Turn Bay Length (ft)			200	100								
Base Capacity (vph)		583	897	371	1108						3060	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.26	0.59	0.73	0.41						1.02	
Intersection Summary												
Area Type:	Other											
Cycle Length: 75												
Actuated Cycle Length: 75												
Offset: 36 (48%), Referenced to phase 2:SBTL, Start of Green												
Natural Cycle: 75												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.02												
Intersection Signal Delay: 37.7						Intersection LOS: D						
Intersection Capacity Utilization 97.1%						ICU Level of Service F						
Analysis Period (min) 15												
~ Volume exceeds capacity, queue is theoretically infinite.												

Lanes, Volumes, Timings

224: Jadwin Ave & Swift Blvd

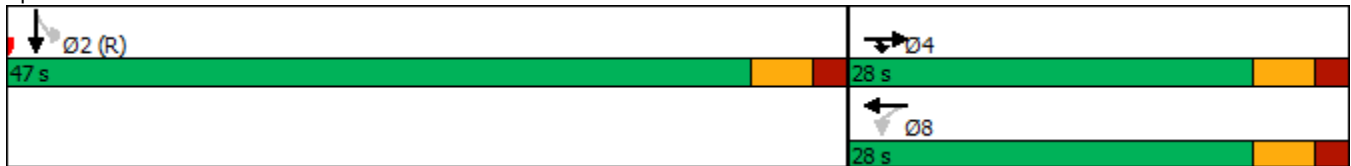
12/17/2019

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.




















Queue shown is maximum after two cycles.

Splits and Phases: 224: Jadwin Ave & Swift Blvd















Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	147	264	161	153	0	0	0	0	250	3019	126
Future Volume (vph)	0	147	264	161	153	0	0	0	0	250	3019	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	125		0	125		0	200		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											0.99	
Frt			0.850								0.994	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	1863	1583	1770	1863	0	0	0	0	0	4997	0
Flt Permitted				0.343							0.996	
Satd. Flow (perm)	0	1863	1583	639	1863	0	0	0	0	0	4997	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58								10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		433			373			646			1397	
Travel Time (s)		11.8			10.2			12.6			27.2	
Confl. Peds. (#/hr)			23			6			11			39
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	165	297	181	172	0	0	0	0	281	3392	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	165	297	181	172	0	0	0	0	0	3815	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		3	3	3	3					3	3	
Detector Template												
Leading Detector (ft)		200	200	160	160					240	240	
Trailing Detector (ft)		1	1	1	1					1	1	
Detector 1 Position(ft)		1	1	1	1					1	1	
Detector 1 Size(ft)		6	6	6	6					6	6	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 2 Position(ft)		97	97	77	77					117	117	
Detector 2 Size(ft)		6	6	6	6					6	6	
Detector 2 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 3 Position(ft)		194	194	154	154					234	234	

Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)		6	6	6	6					6	6	
Detector 3 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Prot	pm+pt	NA					Perm	NA	
Protected Phases		4	4	3	8						2	
Permitted Phases				8						2		
Detector Phase		4	4	3	8					2	2	
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.0	23.5					21.5	21.5	
Total Split (s)		27.0	27.0	11.0	38.0					112.0	112.0	
Total Split (%)		18.0%	18.0%	7.3%	25.3%					74.7%	74.7%	
Maximum Green (s)		21.5	21.5	5.5	32.5					106.5	106.5	
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	
All-Red Time (s)		2.0	2.0	2.0	2.0					2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.0	-1.5	-1.5						-2.0	
Total Lost Time (s)		4.0	4.5	4.0	4.0						3.5	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		0.5	0.5	0.5	0.5					0.5	0.5	
Recall Mode		None	None	None	None					C-Max	C-Max	
Walk Time (s)		9.0	9.0		9.0					9.0	9.0	
Flash Dont Walk (s)		7.0	7.0		9.0					7.0	7.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effect Green (s)		23.0	22.5	34.0	34.0						108.5	
Actuated g/C Ratio		0.15	0.15	0.23	0.23						0.72	
v/c Ratio		0.58	1.04	0.92	0.41						1.05	
Control Delay		68.0	111.9	98.9	52.9						47.6	
Queue Delay		0.0	3.6	0.0	2.1						19.5	
Total Delay		68.0	115.5	98.9	55.0						67.0	
LOS		E	F	F	D						E	
Approach Delay		98.5			77.5						67.0	
Approach LOS		F			E						E	
Queue Length 50th (ft)		152	~261	154	145						~1528	
Queue Length 95th (ft)		230	#448	#298	218						m#1479	
Internal Link Dist (ft)		353			293			566			1317	
Turn Bay Length (ft)				125								
Base Capacity (vph)		285	286	197	422						3617	
Starvation Cap Reductn		0	0	0	140						0	
Spillback Cap Reductn		0	3	0	0						304	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.58	1.05	0.92	0.61						1.15	
Intersection Summary												
Area Type:	Other											
Cycle Length: 150												
Actuated Cycle Length: 150												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green, Master Intersection												

Lanes, Volumes, Timings

228: Jadwin Ave & Knight St

12/17/2019

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 71.0

Intersection LOS: E

Intersection Capacity Utilization 118.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

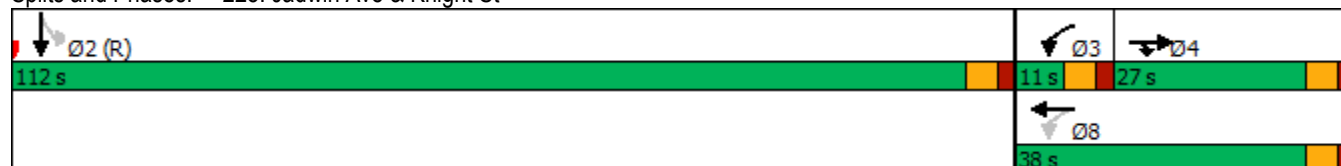
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 228: Jadwin Ave & Knight St















Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↑↑↑	
Traffic Volume (vph)	0	23	242	158	167	0	0	0	0	40	3030	195
Future Volume (vph)	0	23	242	158	167	0	0	0	0	40	3030	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		300	0		0	140		0	125		200
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor			0.96								1.00	
Frt			0.850								0.991	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1863	1583	1770	1863	0	0	0	0	0	5027	0
Flt Permitted				0.741							0.999	
Satd. Flow (perm)	0	1863	1527	1380	1863	0	0	0	0	0	5027	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116								9	
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		1684			202			605			646	
Travel Time (s)		38.3			5.5			11.8			12.6	
Confl. Peds. (#/hr)			9						2			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	25	266	174	184	0	0	0	0	44	3330	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	266	174	184	0	0	0	0	0	3588	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		3	3	1	2					1	3	
Detector Template												
Leading Detector (ft)		220	220	60	150					60	240	
Trailing Detector (ft)		1	1	1	1					1	1	
Detector 1 Position(ft)		1	1	1	1					1	1	
Detector 1 Size(ft)		6	6	59	6					59	6	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 2 Position(ft)		107	107		144						117	
Detector 2 Size(ft)		6	6		6						6	
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0						0.0	
Detector 3 Position(ft)		214	214								234	

Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

12/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)		6	6								6	
Detector 3 Type		Cl+Ex	Cl+Ex								Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)		0.0	0.0								0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		4		3	8						2	
Permitted Phases			4	8						2		
Detector Phase		4	4	3	8					2	2	
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Minimum Split (s)		22.5	22.5	22.5	22.5					24.5	24.5	
Total Split (s)		48.2	48.2	22.8	71.0					79.0	79.0	
Total Split (%)		32.1%	32.1%	15.2%	47.3%					52.7%	52.7%	
Maximum Green (s)		42.7	42.7	17.3	65.5					73.5	73.5	
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	
All-Red Time (s)		2.0	2.0	2.0	2.0					2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0	-2.0	-2.0						-2.0	
Total Lost Time (s)		3.5	3.5	3.5	3.5						3.5	
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		0.5	0.5	2.0	2.0					0.5	0.5	
Recall Mode		None	None	None	None					C-Max	C-Max	
Walk Time (s)		9.0	9.0	9.0	9.0					9.0	9.0	
Flash Dont Walk (s)		8.0	8.0	8.0	8.0					10.0	10.0	
Pedestrian Calls (#/hr)		0	0	0	0					0	0	
Act Effect Green (s)		21.2	21.2	31.2	31.2						111.8	
Actuated g/C Ratio		0.14	0.14	0.21	0.21						0.75	
v/c Ratio		0.10	0.84	0.57	0.48						0.96	
Control Delay		52.4	57.1	60.1	54.8						14.4	
Queue Delay		0.0	0.0	0.0	0.0						24.3	
Total Delay		52.4	57.1	60.1	54.8						38.7	
LOS		D	E	E	D						D	
Approach Delay		56.7			57.4						38.7	
Approach LOS		E			E						D	
Queue Length 50th (ft)		22	149	151	160						441	
Queue Length 95th (ft)		47	238	207	217						m#1099	
Internal Link Dist (ft)		1604			122			525			566	
Turn Bay Length (ft)			300									
Base Capacity (vph)		555	536	454	838						3749	
Starvation Cap Reductn		0	0	0	0						345	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.05	0.50	0.38	0.22						1.05	
Intersection Summary												
Area Type:	Other											
Cycle Length: 150												
Actuated Cycle Length: 150												
Offset: 20 (13%), Referenced to phase 2:SBTL, Start of Green												

Lanes, Volumes, Timings 232: Jadwin Ave & Lee Blvd

12/17/2019

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 41.5

Intersection LOS: D

Intersection Capacity Utilization 98.4%

ICU Level of Service F





Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











m Volume for 95th percentile queue is metered by upstream signal.

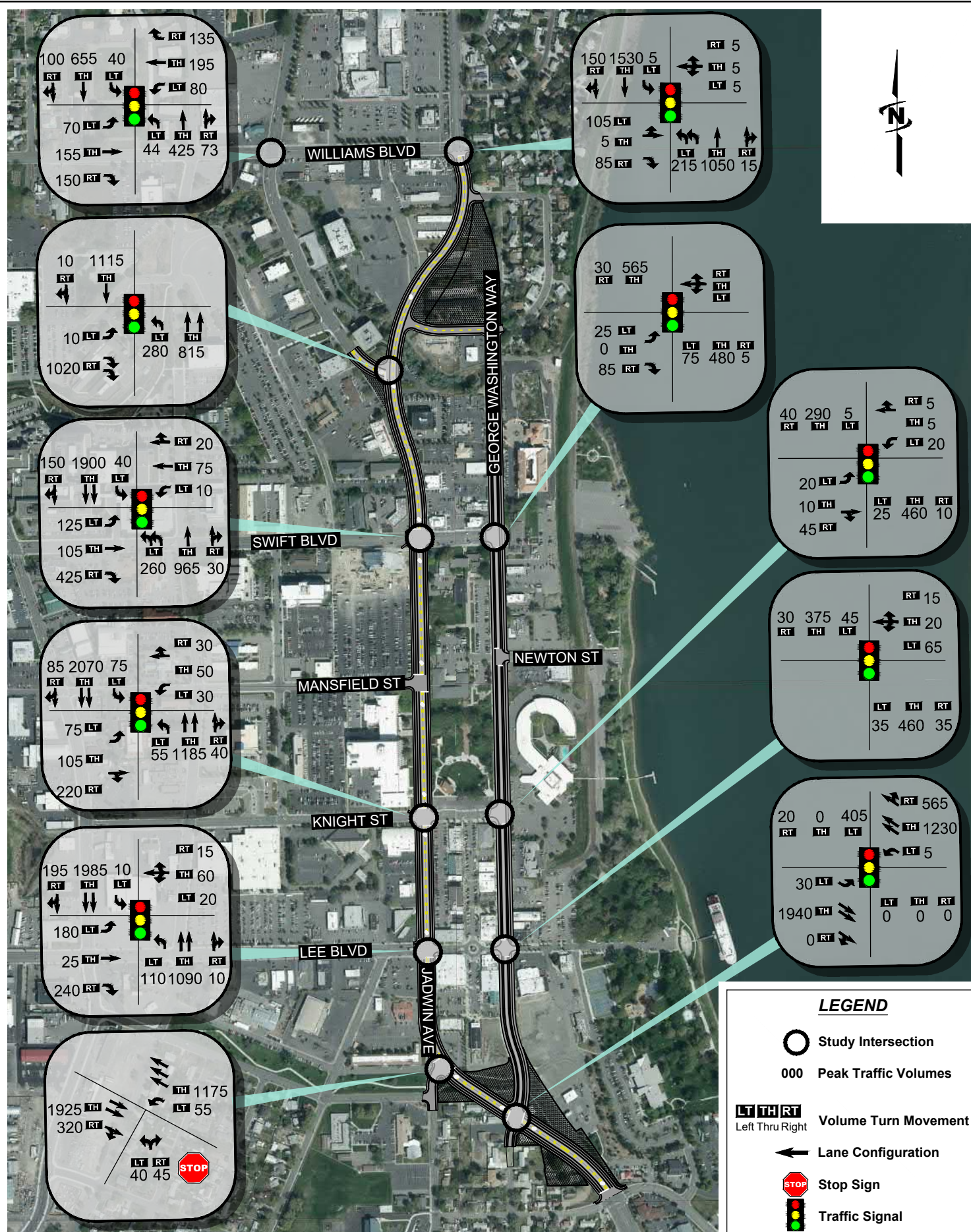
Splits and Phases: 232: Jadwin Ave & Lee Blvd

 Ø2 (R)	 Ø4	 Ø3
79 s	48.2 s	22.8 s
	 Ø8	
	71 s	

Lanes, Volumes, Timings
822: Jadwin Ave

12/17/2019

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					  	
Traffic Volume (vph)	0	44	0	0	2970	322
Future Volume (vph)	0	44	0	0	2970	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			200
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91
Frt		0.865			0.985	
Flt Protected						
Satd. Flow (prot)	0	1611	0	0	5009	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	0	5009	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	539			692	605	
Travel Time (s)	12.3			13.5	11.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	49	0	0	3300	358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	49	0	0	3658	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	74.6%			ICU Level of Service D		
Analysis Period (min)	15					



JADWIN PROHIBITED MOVEMENTS TO ACCOUNT FOR










No-Build

Volume

Number	Movement	Adjustments
1533	G/Williams SBT	Subtract from thrus in corridor and add to Jadwin Corridor
174	G/Williams EBR	keep 50%, 50% to J/Williams EBR and J/new J Tee SBT and EBR
97	G SB betw Williams & Swift	100% to NB U at G/Williams, loose 60% (in SBT already, will access businesses from Jadwin), then 40% to SBT at new Jadwin T, J/Swift SBL and G/Swift EBL
125	G/Swift SBR	loose 60% (in SBT already) add 40% to J/Swift SBR, subtract from Jadwin corridor south of Swift
346	G/Swift EBR	loose 10% from internal, subtract 90% from J/Swift EBT, add 90% to J/Swift EBR, J/Knight SBT, J/Lee SBT, J/J Tee SBT, G/J EBR, subtract from SBT
338	G SB betw Swift & Knight	50% to G/Swift NBL, J/Swift WBL, 50% to J/Knight SBL and G/Knight EBL
85	G SB betw Knight & Lee	100% to G/Knight NBL, J/Knight WBL, J/Lee SBT, J/J Tee SBT, G/J EBL subtract from J/Lee SBT, J/J Tee SBT, G/J EBR
24	G/Jadwin SBL	calculate trip gen for condos, proportionately to SB Corridor and G/J EBT, G/J NBR
14	G/Jadwin WBL	calculate trip gen for condos, proportionately to G/J WBR, G/Lee WBT, J/Lee WBL, J/ J Tee SBT, G/J EBR
96	J/Swift EBL	50% to Stevens and J/Williams EBL, 50% to J/Swift EBT, G/Swift EBL, G/Williams NBT
225	J/Lee EBL	20% accounted for in NBR at J/Lee and 20% at NBR J/Knight, 20% in other corridor movements, 20% lost to Stevens, 20% to J/Williams EBL


















Lanes, Volumes, Timings
10: George Washington Way

11/25/2019

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	500	0	0	520	0
Future Volume (vph)	0	500	0	0	520	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		200	0
Storage Lanes		0	0		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	1611	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1611	0	0	1863	1770	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	366			224	1318	
Travel Time (s)	10.0			6.1	35.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	556	0	0	578	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	556	0	0	0	578	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	66.4%			ICU Level of Service C		
Analysis Period (min)	15					

Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	85	0	0	0	75	480	5	0	565	30
Future Volume (vph)	25	0	85	0	0	0	75	480	5	0	565	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	0		0	250		0	250		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97								1.00	
Frt			0.850					0.999			0.993	
Flt Protected		0.950						0.993				
Satd. Flow (prot)	0	1770	1583	0	1863	0	0	1848	0	0	1848	0
Flt Permitted								0.864				
Satd. Flow (perm)	0	1863	1528	0	1863	0	0	1608	0	0	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89					1			5	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		380			294			1388			1318	
Travel Time (s)		8.6			6.7			37.9			35.9	
Confl. Peds. (#/hr)			5									2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	0	89	0	0	0	79	505	5	0	595	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	89	0	0	0	0	589	0	0	627	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	10	10		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	9	9		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	pm+ov				pm+pt	NA			NA	
Protected Phases		4	1		8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	1	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	20.5	20.5	9.5	9.5	9.5		9.5	36.0		21.0	21.0	
Total Split (s)	21.0	21.0	12.0	21.0	21.0		12.0	69.0		57.0	57.0	
Total Split (%)	23.3%	23.3%	13.3%	23.3%	23.3%		13.3%	76.7%		63.3%	63.3%	
Maximum Green (s)	15.5	15.5	6.5	15.5	15.5		6.5	63.5		51.5	51.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.0		-1.5			-2.0			-2.0	
Total Lost Time (s)		4.0	4.5		4.0			3.5			3.5	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0								6.0	6.0	
Flash Dont Walk (s)	9.0	9.0								9.0	9.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)		6.5	7.9					82.5			74.9	
Actuated g/C Ratio		0.07	0.09					0.92			0.83	
v/c Ratio		0.19	0.41					0.40			0.41	
Control Delay		36.6	21.8					1.8			4.2	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		36.6	21.8					1.8			4.2	
LOS		D	C					A			A	
Approach Delay		25.1						1.8			4.2	
Approach LOS		C						A			A	
Queue Length 50th (ft)		14	0					13			46	
Queue Length 95th (ft)		m35	53					67			190	
Internal Link Dist (ft)		300			214			1308			1238	
Turn Bay Length (ft)			150									
Base Capacity (vph)		351	260					1486			1537	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.07	0.34					0.40			0.41	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 28 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

144: George Washington Way & Swift Blvd

11/25/2019

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 4.9

Intersection LOS: A

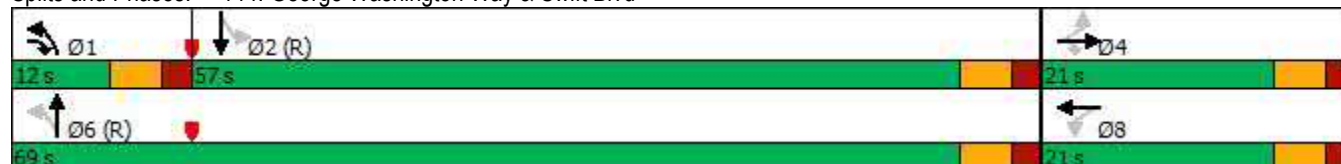
Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15




















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 144: George Washington Way & Swift Blvd



Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	10	45	20	5	5	25	460	10	5	290	40
Future Volume (vph)	20	10	45	20	5	5	25	460	10	5	290	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97			0.98			1.00			1.00	
Frt		0.877			0.925			0.997			0.984	
Flt Protected	0.950			0.950				0.997			0.999	
Satd. Flow (prot)	1770	1586	0	1770	1692	0	0	1850	0	0	1826	0
Flt Permitted	0.750			0.717				0.972			0.993	
Satd. Flow (perm)	1397	1586	0	1336	1692	0	0	1804	0	0	1815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			6			2			16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		373			460			670			1388	
Travel Time (s)		10.2			12.5			18.3			37.9	
Confl. Peds. (#/hr)			7			7			6			1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	11	51	22	6	6	28	517	11	6	326	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	62	0	22	12	0	0	556	0	0	377	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	160	160		60	60		60	240		60	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	77	77						117			117	
Detector 2 Size(ft)	6	6						6			6	
Detector 2 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0						0.0			0.0	
Detector 3 Position(ft)	154	154						234			234	

Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6						6			6	
Detector 3 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0						0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.5	25.5		24.5	24.5		24.0	24.0		21.0	21.0	
Total Split (s)	27.0	27.0		27.0	27.0		63.0	63.0		63.0	63.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	21.5	21.5		21.5	21.5		57.5	57.5		57.5	57.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-2.0			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			3.5			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	14.0	14.0		13.0	13.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	6.5	6.5		6.5	6.5			78.6			78.2	
Actuated g/C Ratio	0.07	0.07		0.07	0.07			0.87			0.87	
v/c Ratio	0.22	0.38		0.23	0.09			0.35			0.24	
Control Delay	39.4	17.5		44.5	30.5			1.6			1.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	39.4	17.5		44.5	30.5			1.6			1.7	
LOS	D	B		D	C			A			A	
Approach Delay		23.2			39.5			1.6			1.7	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	10	3		12	3			6			24	
Queue Length 95th (ft)	m18	m17		35	20			12			47	
Internal Link Dist (ft)		293			380			590			1308	
Turn Bay Length (ft)	125			100								
Base Capacity (vph)	357	443		341	436			1574			1578	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.06	0.14		0.06	0.03			0.35			0.24	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 20 (22%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

148: George Washington Way & Knight St

11/25/2019

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 4.6

Intersection LOS: A

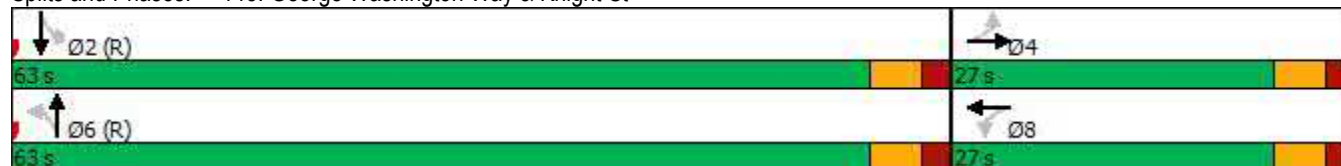
Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15
















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 148: George Washington Way & Knight St















Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	65	20	15	35	460	35	45	375	30
Future Volume (vph)	0	0	0	65	20	15	35	460	35	45	375	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	200		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00							
Frt					0.979			0.991			0.990	
Flt Protected					0.969			0.997			0.995	
Satd. Flow (prot)	0	0	0	0	1759	0	0	1840	0	0	1835	0
Flt Permitted					0.969			0.948			0.900	
Satd. Flow (perm)	0	0	0	0	1759	0	0	1750	0	0	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			6			9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		178			454			870			670	
Travel Time (s)		4.9			12.4			23.7			18.3	
Confl. Peds. (#/hr)						4						
Peak Hour Factor	0.84	0.84	0.90	0.90	0.84	0.84	0.90	0.90	0.90	0.84	0.90	0.84
Adj. Flow (vph)	0	0	0	72	24	18	39	511	39	54	417	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	114	0	0	589	0	0	507	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		1	2		1	2	
Detector Template				Left			Left	Thru			Thru	
Leading Detector (ft)				20	60		20	100		60	100	
Trailing Detector (ft)				0	1		0	0		1	0	
Detector 1 Position(ft)				0	1		0	0		1	0	
Detector 1 Size(ft)				20	59		20	6		59	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	

Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases					8			6		5	2	
Permitted Phases				8			6			2		
Detector Phase				8	8		6	6		5	2	
Switch Phase												
Minimum Initial (s)				4.0	4.0		10.0	10.0		4.0	4.0	
Minimum Split (s)				23.5	23.5		24.0	24.0		10.0	21.0	
Total Split (s)				24.0	24.0		56.0	56.0		10.0	66.0	
Total Split (%)				26.7%	26.7%		62.2%	62.2%		11.1%	73.3%	
Maximum Green (s)				18.5	18.5		50.5	50.5		4.5	60.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)					-1.5			0.0			0.0	
Total Lost Time (s)					4.0			5.5			5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode				None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)				6.0	6.0		7.0	7.0			6.0	
Flash Dont Walk (s)				12.0	12.0		9.0	9.0			9.0	
Pedestrian Calls (#/hr)				2	2		0	0			0	
Act Effct Green (s)					10.9			72.6			72.6	
Actuated g/C Ratio					0.12			0.81			0.81	
v/c Ratio					0.52			0.42			0.38	
Control Delay					40.6			6.5			3.6	
Queue Delay					0.0			0.0			0.0	
Total Delay					40.6			6.5			3.6	
LOS					D			A			A	
Approach Delay					40.6			6.5			3.6	
Approach LOS					D			A			A	
Queue Length 50th (ft)					57			42			73	
Queue Length 95th (ft)					89			m420			149	
Internal Link Dist (ft)		98			374			790			590	
Turn Bay Length (ft)												
Base Capacity (vph)					398			1413			1341	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.29			0.42			0.38	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.52												
Intersection Signal Delay: 8.5							Intersection LOS: A					
Intersection Capacity Utilization 49.9%							ICU Level of Service A					

Lanes, Volumes, Timings

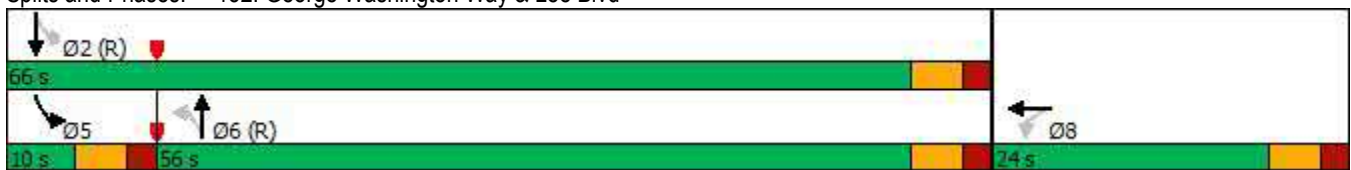
152: George Washington Way & Lee Blvd

11/25/2019

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



















Splits and Phases: 152: George Washington Way & Lee Blvd



Lanes, Volumes, Timings

1: Jadwin Ave & George Washington Way

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	30	1940	0	0	1230	565	0	0	0	405	0	20
Future Volume (vph)	30	1940	0	0	1230	565	0	0	0	405	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.953						0.994	
Flt Protected	0.950										0.954	
Satd. Flow (prot)	1770	5085	0	1863	4846	0	0	1863	0	0	1766	0
Flt Permitted	0.099										0.736	
Satd. Flow (perm)	184	5085	0	1863	4846	0	0	1863	0	0	1363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					171						30	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		424			659			268			870	
Travel Time (s)		8.3			12.8			7.3			23.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	33	2156	0	0	1367	628	0	0	0	450	0	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	2156	0	0	1995	0	0	0	0	0	472	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA					Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		

Lanes, Volumes, Timings
1: Jadwin Ave & George Washington Way

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	48.0	48.0		48.0	48.0		42.0	42.0		42.0	42.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	42.5	42.5		42.5	42.5		36.5	36.5		36.5	36.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	1.0	1.0		1.0	1.0			1.0			1.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5			6.5			6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		Max	Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	40.5	40.5			40.5							36.5
Actuated g/C Ratio	0.45	0.45			0.45							0.41
v/c Ratio	0.40	0.94			0.88							0.83
Control Delay	9.9	14.7			25.9							35.6
Queue Delay	0.0	0.0			0.0							0.0
Total Delay	9.9	14.7			25.9							35.6
LOS	A	B			C							D
Approach Delay		14.7			25.9							35.6
Approach LOS		B			C							D
Queue Length 50th (ft)	1	90			330							145
Queue Length 95th (ft)	m2	m52			402							#256
Internal Link Dist (ft)		344			579			188				790
Turn Bay Length (ft)	100											
Base Capacity (vph)	84	2344			2326							571
Starvation Cap Reductn	0	0			0							0
Spillback Cap Reductn	0	0			0							0
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.39	0.92			0.86							0.83

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SWTL, Start of Green, Master Intersection

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 21.6

Intersection LOS: C

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings

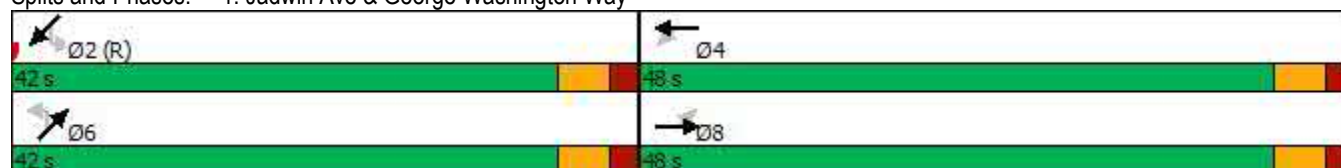
1: Jadwin Ave & George Washington Way

11/25/2019

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.












Splits and Phases: 1: Jadwin Ave & George Washington Way



Lanes, Volumes, Timings

6: Jadwin Ave

11/25/2019

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	1020	280	815	1115	10
Future Volume (vph)	10	1020	280	815	1115	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	2	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	0.88	1.00	0.95	0.95	0.95
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	2787	1770	3539	3536	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	2787	1770	3539	3536	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		20			1	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1190			996	378	
Travel Time (s)	23.2			19.4	7.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	1133	311	906	1239	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	1133	311	906	1250	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes			Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	4 6	6	6	2	
Permitted Phases						

Lanes, Volumes, Timings

6: Jadwin Ave

11/25/2019



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4 6	6	6	2	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		21.0	21.0	21.0	
Total Split (s)	21.0		30.0	30.0	39.0	
Total Split (%)	23.3%		33.3%	33.3%	43.3%	
Maximum Green (s)	15.5		24.5	24.5	33.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	0.5		0.5	0.5	0.5	
Recall Mode	None		Max	Max	C-Max	
Walk Time (s)	6.0		6.0	6.0	6.0	
Flash Dont Walk (s)	9.0		9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effect Green (s)	12.8	42.8	24.5	24.5	36.2	
Actuated g/C Ratio	0.14	0.48	0.27	0.27	0.40	
v/c Ratio	0.04	0.85	0.65	0.94	0.88	
Control Delay	38.7	31.6	25.3	41.0	17.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.7	31.6	25.3	41.0	17.7	
LOS	D	C	C	D	B	
Approach Delay	31.7			37.0	17.7	
Approach LOS	C			D	B	
Queue Length 50th (ft)	5	309	185	286	361	
Queue Length 95th (ft)	m16	453	270	#398	m#448	
Internal Link Dist (ft)	1110			916	298	
Turn Bay Length (ft)	200		200			
Base Capacity (vph)	304	1418	481	963	1422	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.80	0.65	0.94	0.88	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 51 (57%), Referenced to phase 2:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 28.6

Intersection LOS: C

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings

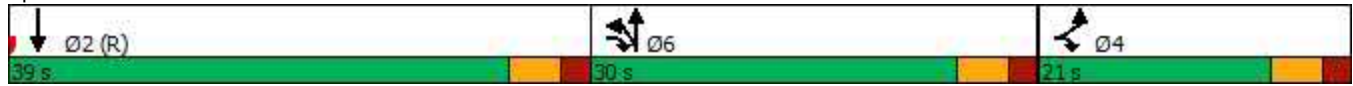
6: Jadwin Ave

11/25/2019

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 6: Jadwin Ave



Lanes, Volumes, Timings

140: Williams Ave/Hains Ave & George Washington Way













11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	5	85	5	5	5	215	1050	15	5	1530	150
Future Volume (vph)	105	5	85	5	5	5	215	1050	15	5	1530	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		180	0		0	150		0	115		0
Storage Lanes	0		1	0		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					0.99						1.00	
Frt			0.850		0.958			0.998			0.988	
Flt Protected		0.954			0.982		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1741	0	3433	3532	0	1770	3487	0
Flt Permitted		0.724			0.909		0.950			0.239		
Satd. Flow (perm)	0	1349	1583	0	1612	0	3433	3532	0	445	3487	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97		5			4			17	
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		936			453			619			1517	
Travel Time (s)		21.3			12.4			12.1			29.6	
Confl. Peds. (#/hr)						5						5
Peak Hour Factor	0.98	0.98	0.90	0.90	0.98	0.98	0.90	0.90	0.90	0.98	0.90	0.98
Adj. Flow (vph)	107	5	94	6	5	5	239	1167	17	5	1700	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	94	0	16	0	239	1184	0	5	1853	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		2			12			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8						2		
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5		10.0	21.0		24.0	24.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0		12.0	69.0		57.0	57.0	
Total Split (%)	23.3%	23.3%	23.3%	23.3%	23.3%		13.3%	76.7%		63.3%	63.3%	
Maximum Green (s)	15.5	15.5	15.5	15.5	15.5		6.5	63.5		51.5	51.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	0.0		-1.5		0.0	0.0		-2.0	0.0	
Total Lost Time (s)		4.0	5.5		4.0		5.5	5.5		3.5	5.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effect Green (s)		17.0	15.5		17.0		6.5	63.5		53.5	51.5	

Lanes, Volumes, Timings

140: Williams Ave/Hains Ave & George Washington Way

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.19	0.17		0.19		0.07	0.71		0.59	0.57	
v/c Ratio		0.44	0.27		0.05		0.97	0.47		0.02	0.93	
Control Delay		33.4	10.5		24.9		98.7	2.5		7.8	27.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		33.4	10.5		24.9		98.7	2.5		7.8	27.1	
LOS		C	B		C		F	A		A	C	
Approach Delay		22.9			24.9			18.6			27.0	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)		44	5		5		74	39		1	464	
Queue Length 95th (ft)		117	32		23		m#108	m44		6	#671	
Internal Link Dist (ft)		856			373			539			1437	
Turn Bay Length (ft)			180				150			115		
Base Capacity (vph)		254	352		308		247	2493		264	2002	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.44	0.27		0.05		0.97	0.47		0.02	0.93	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 11 (12%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 23.4

Intersection LOS: C

Intersection Capacity Utilization 78.5%

ICU Level of Service D

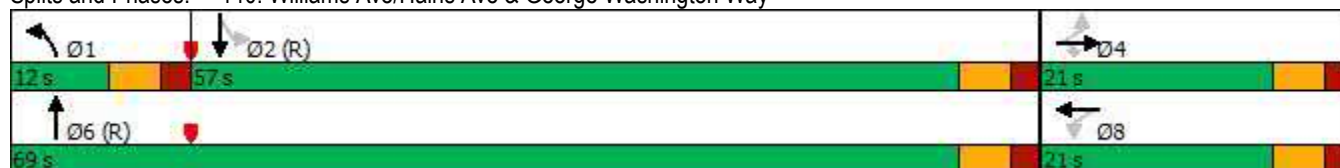
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Williams Ave/Hains Ave & George Washington Way



Lanes, Volumes, Timings
220: Williams Ave & Jadwin Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	155	150	80	195	135	45	245	50	40	655	100
Future Volume (vph)	170	155	150	80	195	135	45	245	50	40	655	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		155	160		150	125		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.974			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3447	0	1770	3468	0
Flt Permitted	0.606			0.646			0.315			0.554		
Satd. Flow (perm)	1129	1863	1583	1203	1863	1583	587	3447	0	1032	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			153		56			47	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1755			936			1190			1364	
Travel Time (s)		39.9			21.3			23.2			26.6	
Peak Hour Factor	0.88	0.88	0.90	0.90	0.88	0.88	0.90	0.90	0.90	0.88	0.90	0.88
Adj. Flow (vph)	193	176	167	89	222	153	50	272	56	45	728	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	176	167	89	222	153	50	328	0	45	842	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6			2		

Lanes, Volumes, Timings
220: Williams Ave & Jadwin Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	24.0	24.0		24.0	24.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	15.5	15.5	15.5	15.5	15.5	15.5	18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	0.0	0.0	-1.0	-1.0	0.0	0.0		-1.0	0.0	
Total Lost Time (s)	4.5	4.5	5.5	5.5	4.5	4.5	5.5	5.5		4.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effect Green (s)	11.3	11.3	10.3	10.3	11.3	11.3	23.7	23.7		24.7	23.7	
Actuated g/C Ratio	0.25	0.25	0.23	0.23	0.25	0.25	0.53	0.53		0.55	0.53	
v/c Ratio	0.68	0.38	0.38	0.32	0.48	0.30	0.16	0.18		0.08	0.46	
Control Delay	26.8	14.9	8.2	21.5	22.5	11.3	5.0	2.5		7.1	8.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	26.8	14.9	8.2	21.5	22.5	11.3	5.0	2.5		7.1	8.3	
LOS	C	B	A	C	C	B	A	A		A	A	
Approach Delay		17.1			18.6			2.8			8.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	44	37	13	36	94	5	2	1		5	58	
Queue Length 95th (ft)	79	62	41	m43	m104	m13	m13	m32		20	121	
Internal Link Dist (ft)		1675			856			1110			1284	
Turn Bay Length (ft)	150		155	160		150	125			150		
Base Capacity (vph)	413	683	613	414	683	677	309	1842		566	1848	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.47	0.26	0.27	0.21	0.33	0.23	0.16	0.18		0.08	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 22 (49%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 11.5

Intersection LOS: B

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
220: Williams Ave & Jadwin Ave























11/25/2019

Splits and Phases: 220: Williams Ave & Jadwin Ave















Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	105	425	10	75	20	260	965	30	40	1900	150
Future Volume (vph)	125	105	425	10	75	20	260	965	30	40	1900	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		200	100		0	200		200	150		450
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			65			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91
Frt			0.850		0.969			0.996			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3429	0	3433	3525	0	1770	5029	0
Flt Permitted	0.686			0.638			0.950			0.258		
Satd. Flow (perm)	1278	1863	1583	1188	3429	0	3433	3525	0	481	5029	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30		22			8			20	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1167			385			1397			996	
Travel Time (s)		26.5			8.8			27.2			19.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	139	117	472	11	83	22	289	1072	33	44	2111	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	117	472	11	105	0	289	1105	0	44	2278	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Perm	NA	
Protected Phases		4	1		8		1	6			2	
Permitted Phases	4		4	8						2		

Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0	10.0	21.0	21.0		10.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0	19.0	21.0	21.0		19.0	69.0		50.0	50.0	
Total Split (%)	23.3%	23.3%	21.1%	23.3%	23.3%		21.1%	76.7%		55.6%	55.6%	
Maximum Green (s)	15.5	15.5	13.5	15.5	15.5		13.5	63.5		44.5	44.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-1.0	-1.0	-1.0	-1.0		-1.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	4.5	4.5	4.5	4.5		4.5	5.5		5.5	5.5	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	12.1	13.1	32.5	13.1	13.1		14.9	66.9		47.5	47.5	
Actuated g/C Ratio	0.13	0.15	0.36	0.15	0.15		0.17	0.74		0.53	0.53	
v/c Ratio	0.81	0.43	0.80	0.06	0.20		0.51	0.42		0.17	0.85	
Control Delay	70.1	39.0	35.0	41.5	37.2		22.3	10.2		13.1	21.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	70.1	39.0	35.0	41.5	37.2		22.3	10.2		13.1	21.5	
LOS	E	D	D	D	D		C	B		B	C	
Approach Delay		42.3			37.6			12.7			21.3	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)	77	61	211	6	24		37	307		10	450	
Queue Length 95th (ft)	#151	109	332	m14	46		79	272		m13	#358	
Internal Link Dist (ft)		1087			305			1317			916	
Turn Bay Length (ft)	145		200	100			200			150		
Base Capacity (vph)	220	341	595	217	646		577	2622		253	2665	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.63	0.34	0.79	0.05	0.16		0.50	0.42		0.17	0.85	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 75 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green												
Natural Cycle: 80												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.85												
Intersection Signal Delay: 22.5						Intersection LOS: C						
Intersection Capacity Utilization 81.8%						ICU Level of Service D						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												

Lanes, Volumes, Timings

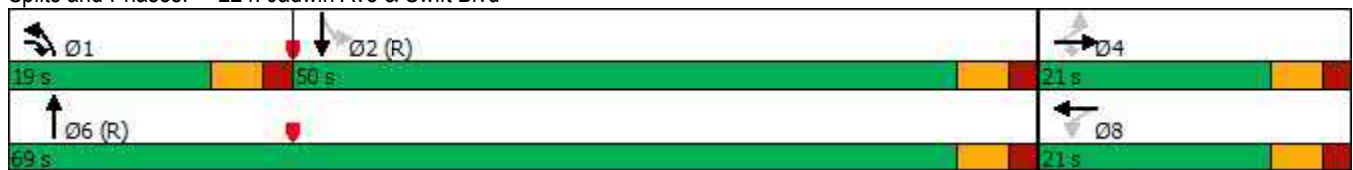
224: Jadwin Ave & Swift Blvd

11/25/2019

Queue shown is maximum after two cycles.























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 224: Jadwin Ave & Swift Blvd















Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	105	220	30	50	30	55	1185	40	75	2070	85
Future Volume (vph)	75	105	220	30	50	30	55	1185	40	75	2070	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	125		0	125		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			30		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.97			0.99			1.00			0.99	
Frt		0.898			0.943			0.995			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1616	0	1770	1743	0	1770	5052	0	1770	5029	0
Flt Permitted	0.699			0.202			0.065			0.161		
Satd. Flow (perm)	1302	1616	0	376	1743	0	121	5052	0	300	5029	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			32			12			15	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		433			373			646			1397	
Travel Time (s)		11.8			10.2			12.6			27.2	
Confl. Peds. (#/hr)			23			6			11			39
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	84	118	247	34	56	34	62	1331	45	84	2326	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	365	0	34	90	0	62	1376	0	84	2422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		3	3		3	3		3	3	
Detector Template												
Leading Detector (ft)	200	200		160	160		240	240		240	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		6	6		6	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	97	97		77	77		117	117		117	117	
Detector 2 Size(ft)	6	6		6	6		6	6		6	6	
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 3 Position(ft)	194	194		154	154		234	234		234	234	

Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6		6	6		6	6		6	6	
Detector 3 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		23.5	23.5		24.0	24.0		21.5	21.5	
Total Split (s)	26.0	26.0		26.0	26.0		64.0	64.0		64.0	64.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		71.1%	71.1%		71.1%	71.1%	
Maximum Green (s)	20.5	20.5		20.5	20.5		58.5	58.5		58.5	58.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	7.0	7.0		9.0	9.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	21.4	21.4		21.4	21.4		61.1	61.1		61.1	61.1	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.68	0.68		0.68	0.68	
v/c Ratio	0.27	0.94		0.39	0.21		0.76	0.40		0.41	0.71	
Control Delay	30.4	66.8		44.2	21.1		68.8	2.6		6.2	4.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.4	66.8		44.2	21.1		68.8	2.6		6.2	4.0	
LOS	C	E		D	C		E	A		A	A	
Approach Delay		60.0			27.4			5.4			4.1	
Approach LOS		E			C			A			A	
Queue Length 50th (ft)	39	198		18	30		14	46		8	92	
Queue Length 95th (ft)	78	#359		47	62		m#106	46		m9	90	
Internal Link Dist (ft)		353			293			566			1317	
Turn Bay Length (ft)	165			125			125			200		
Base Capacity (vph)	318	401		91	450		82	3436		203	3421	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.91		0.37	0.20		0.76	0.40		0.41	0.71	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 1 (1%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												

Lanes, Volumes, Timings

228: Jadwin Ave & Knight St

11/25/2019

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 80.3%

ICU Level of Service D

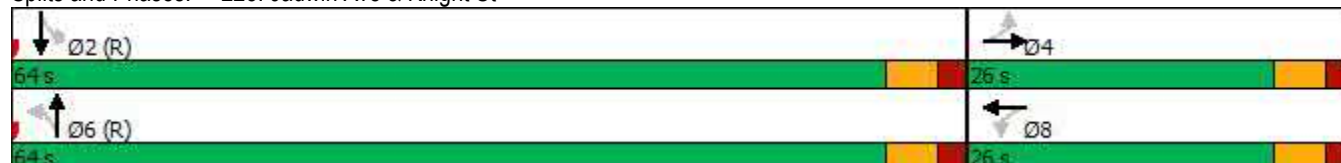
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 228: Jadwin Ave & Knight St















Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	25	240	20	60	15	110	1090	10	10	1985	195
Future Volume (vph)	180	25	240	20	60	15	110	1090	10	10	1985	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		230	0		0	140		0	125		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.97					1.00			1.00	
Frt			0.850		0.979			0.999			0.987	
Flt Protected	0.950				0.990		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1805	0	1770	5079	0	1770	5009	0
Flt Permitted	0.950				0.990		0.086			0.221		
Satd. Flow (perm)	1770	1863	1542	0	1805	0	160	5079	0	412	5009	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			264		9			2			18	
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		1684			202			605			646	
Travel Time (s)		38.3			5.5			11.8			12.6	
Confl. Peds. (#/hr)			9						2			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	198	27	264	22	66	16	121	1198	11	11	2181	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	27	264	0	104	0	121	1209	0	11	2395	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3	3	1	2		1	3		1	3	
Detector Template												
Leading Detector (ft)	220	220	220	60	150		60	240		60	240	
Trailing Detector (ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	6	6	6	59	6		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	107	107	107		144			117			117	
Detector 2 Size(ft)	6	6	6		6			6			6	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0		0.0			0.0			0.0	
Detector 3 Position(ft)	214	214	214					234			234	

Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6	6					6			6	
Detector 3 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0	0.0					0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		1	6			2	
Permitted Phases			4				6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		2.0	4.0		4.0	4.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		8.0	21.5		24.5	24.5	
Total Split (s)	22.0	22.0	22.0	23.0	23.0		15.0	45.0		30.0	30.0	
Total Split (%)	24.4%	24.4%	24.4%	25.6%	25.6%		16.7%	50.0%		33.3%	33.3%	
Maximum Green (s)	16.5	16.5	16.5	17.5	17.5		9.5	39.5		24.5	24.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	3.5	3.5	3.5		3.5		3.5	3.5		3.5	3.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	2.0	2.0		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0			7.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)	14.9	14.9	14.9		11.1		55.6	55.6		44.3	44.3	
Actuated g/C Ratio	0.17	0.17	0.17		0.12		0.62	0.62		0.49	0.49	
v/c Ratio	0.68	0.09	0.56		0.45		0.51	0.39		0.05	0.97	
Control Delay	46.8	30.5	9.0		38.8		24.2	23.9		13.1	28.1	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	46.8	30.5	9.0		38.8		24.2	23.9		13.1	28.1	
LOS	D	C	A		D		C	C		B	C	
Approach Delay		25.5			38.8			23.9			28.1	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	106	13	0		51		64	258		2	~435	
Queue Length 95th (ft)	171	35	62		96		m84	m309		m4	#751	
Internal Link Dist (ft)		1604			122			525			566	
Turn Bay Length (ft)	225		230				140			125		
Base Capacity (vph)	363	382	526		398		304	3138		202	2475	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.55	0.07	0.50		0.26		0.40	0.39		0.05	0.97	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 33 (37%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												

Lanes, Volumes, Timings

232: Jadwin Ave & Lee Blvd

11/25/2019

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

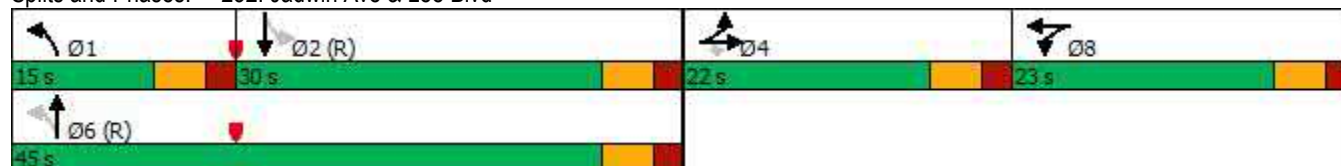
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











m Volume for 95th percentile queue is metered by upstream signal.

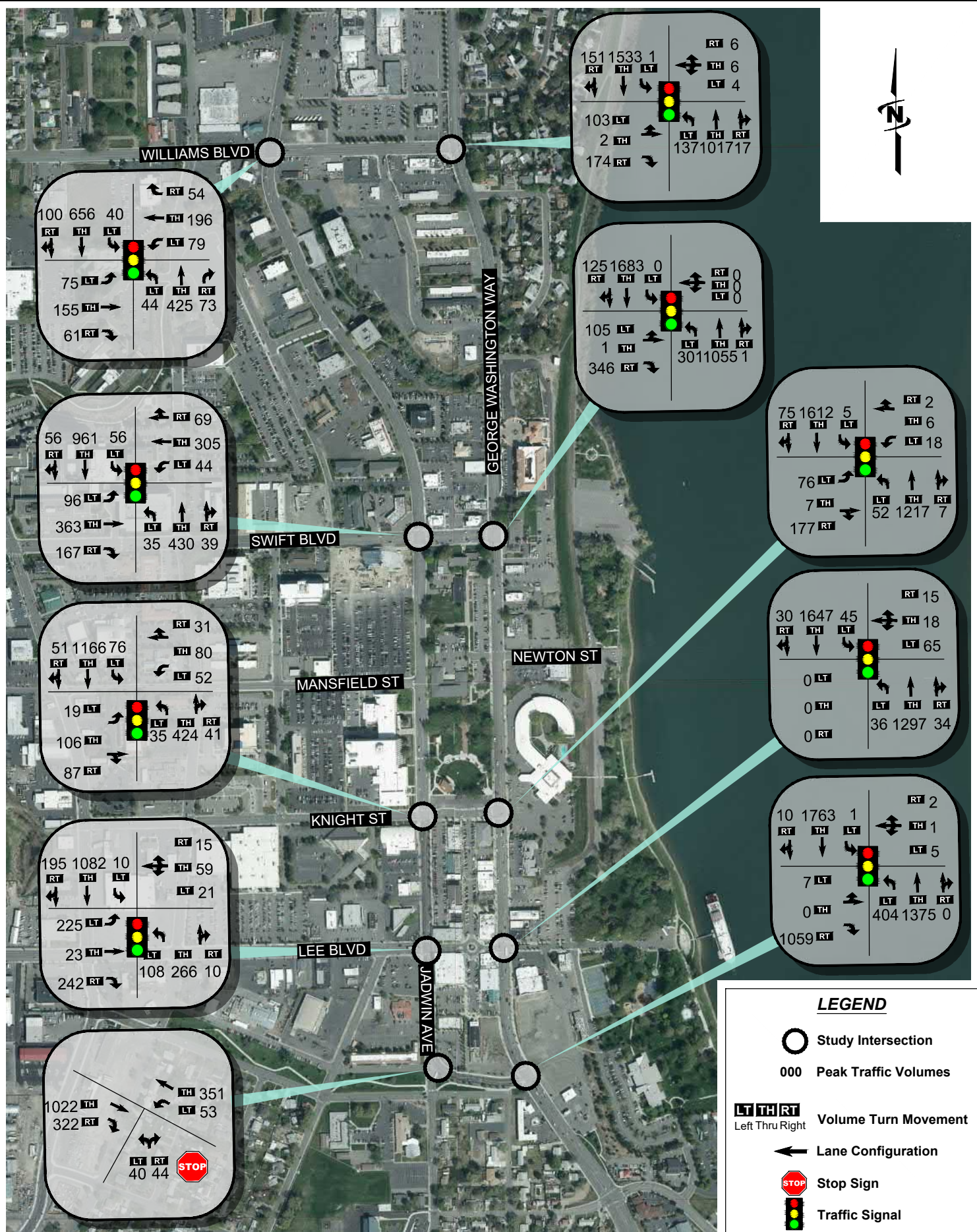
Splits and Phases: 232: Jadwin Ave & Lee Blvd



Lanes, Volumes, Timings
822: Jadwin Ave

11/25/2019






















						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	45	55	1175	1925	320
Future Volume (vph)	40	45	55	1175	1925	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt	0.928				0.979	
Flt Protected	0.977		0.950			
Satd. Flow (prot)	1689	0	1770	5085	4979	0
Flt Permitted	0.977		0.950			
Satd. Flow (perm)	1689	0	1770	5085	4979	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	540			424	605	
Travel Time (s)	12.3			8.3	11.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	50	61	1306	2139	356
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	61	1306	2495	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.3%			ICU Level of Service B		
Analysis Period (min)	15					



Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	2	174	4	6	6	137	1007	17	1	1533	151
Future Volume (vph)	103	2	174	4	6	6	137	1007	17	1	1533	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		180	0		0	150		0	115		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97		0.99			1.00			1.00	
Frt			0.850		0.949			0.998			0.987	
Flt Protected		0.953			0.988		0.950			0.950		
Satd. Flow (prot)	0	1775	1583	0	1730	0	1770	3530	0	1770	3480	0
Flt Permitted		0.719			0.944		0.078			0.274		
Satd. Flow (perm)	0	1339	1543	0	1653	0	145	3530	0	510	3480	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178		6			4			15	
Link Speed (mph)		30			25			30			35	
Link Distance (ft)		936			453			274			1517	
Travel Time (s)		21.3			12.4			6.2			29.6	
Confl. Peds. (#/hr)			5			5			5			5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	105	2	178	4	6	6	140	1028	17	1	1564	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	178	0	16	0	140	1045	0	1	1718	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes									Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	60	60		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	8.0		8.0	8.0	
Minimum Split (s)	20.5	20.5	20.5	20.5	20.5		9.5	20.5		24.0	24.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		21.0	114.0		93.0	93.0	
Total Split (%)	18.6%	18.6%	18.6%	18.6%	18.6%		15.0%	81.4%		66.4%	66.4%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5		15.5	108.5		87.5	87.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.5		-1.5		-1.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		4.0	4.0		4.0		4.5	3.5		3.5	3.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	Max	Max	Max	Max	Max		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0			6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)		22.0	22.0		22.0		109.5	110.5		97.1	97.1	
Actuated g/C Ratio		0.16	0.16		0.16		0.78	0.79		0.69	0.69	
v/c Ratio		0.51	0.45		0.06		0.65	0.37		0.00	0.71	
Control Delay		80.0	25.9		38.1		23.5	3.5		8.0	15.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		80.0	25.9		38.1		23.5	3.5		8.0	15.4	
LOS		E	C		D		C	A		A	B	
Approach Delay		46.2			38.1			5.8			15.4	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		99	1		8		28	39		0	443	
Queue Length 95th (ft)		164	103		30		m76	134		2	615	
Internal Link Dist (ft)		856			373			194			1437	
Turn Bay Length (ft)			180				150			115		
Base Capacity (vph)		210	392		264		304	2787		353	2418	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.51	0.45		0.06		0.46	0.37		0.00	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 108 (77%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

140: George Washington Way & Williams Ave/Hains Ave

11/25/2019

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 14.7

Intersection LOS: B

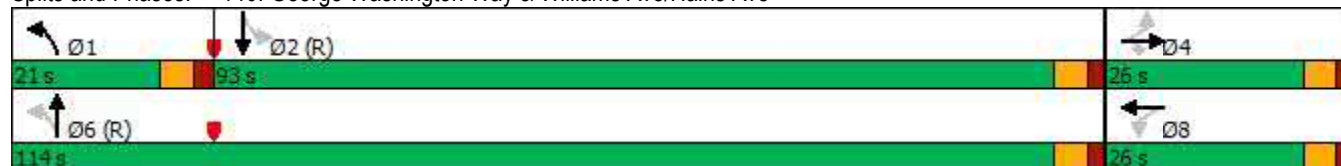
Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15




















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: George Washington Way & Williams Ave/Hains Ave



Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1	346	0	0	0	301	1055	1	0	1683	125
Future Volume (vph)	105	1	346	0	0	0	301	1055	1	0	1683	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	0		0	180		0	180		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96								1.00	
Frt			0.850								0.990	
Flt Protected		0.953					0.950					
Satd. Flow (prot)	0	1775	1583	0	1863	0	1770	1863	0	1863	1842	0
Flt Permitted		0.728					0.040					
Satd. Flow (perm)	0	1356	1515	0	1863	0	75	1863	0	1863	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			35								6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		380			294			1388			1031	
Travel Time (s)		8.6			6.7			31.5			23.4	
Confl. Peds. (#/hr)			5									2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	1	364	0	0	0	317	1111	1	0	1772	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	364	0	0	0	317	1112	0	0	1904	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	5	60	60	10	10		60	240		60	240	
Trailing Detector (ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	0	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	5	59	59	9	9		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
144: George Washington Way & Swift Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type	Perm	NA	pm+ov				pm+pt	NA		Perm	NA	
Protected Phases		4	1		8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	1	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	10.0		10.0	10.0	
Minimum Split (s)	20.5	20.5	9.5	9.5	9.5		9.5	36.0		21.0	21.0	
Total Split (s)	21.0	21.0	18.0	21.0	21.0		18.0	119.0		101.0	101.0	
Total Split (%)	15.0%	15.0%	12.9%	15.0%	15.0%		12.9%	85.0%		72.1%	72.1%	
Maximum Green (s)	15.5	15.5	12.5	15.5	15.5		12.5	113.5		95.5	95.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.5	-1.0		-1.5		-1.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		4.0	4.5		4.0		4.5	3.5		3.5	3.5	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0								6.0	6.0	
Flash Dont Walk (s)	9.0	9.0								9.0	9.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)		14.6	30.0				116.9	117.9			97.5	
Actuated g/C Ratio		0.10	0.21				0.84	0.84			0.70	
v/c Ratio		0.79	1.01				1.24	0.71			1.48	
Control Delay		122.8	79.8				160.2	8.3			238.9	
Queue Delay		0.0	5.0				0.0	0.1			1.5	
Total Delay		122.8	84.8				160.2	8.4			240.4	
LOS		F	F				F	A			F	
Approach Delay		93.8						42.1			240.4	
Approach LOS		F						D			F	
Queue Length 50th (ft)		101	~157				~327	434			~2401	
Queue Length 95th (ft)		m136	m#433				m#407	m659			#2665	
Internal Link Dist (ft)		300			214			1308			951	
Turn Bay Length (ft)			150				180					
Base Capacity (vph)		164	359				255	1568			1284	
Starvation Cap Reductn		0	1				0	48			0	
Spillback Cap Reductn		0	6				0	0			361	
Storage Cap Reductn		0	0				0	0			0	
Reduced v/c Ratio		0.68	1.03				1.24	0.73			2.06	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 130 (93%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

144: George Washington Way & Swift Blvd

11/25/2019

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.48

Intersection Signal Delay: 147.7

Intersection LOS: F

Intersection Capacity Utilization 130.2%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

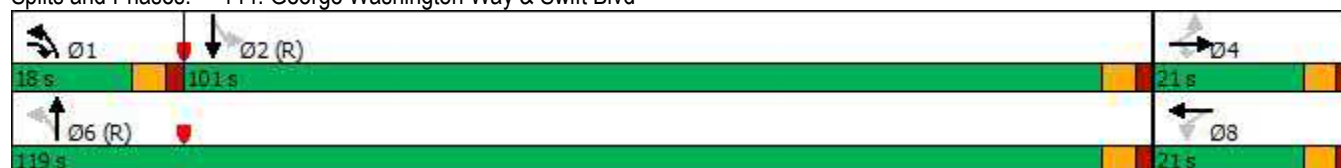
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 144: George Washington Way & Swift Blvd



Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	7	177	18	6	2	52	1217	7	5	1612	75
Future Volume (vph)	76	7	177	18	6	2	52	1217	7	5	1612	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	80		80	150		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.99			1.00			1.00	
Frt		0.856			0.967			0.999			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1527	0	1770	1783	0	1770	1860	0	1770	1848	0
Flt Permitted	0.752			0.220			0.035			0.064		
Satd. Flow (perm)	1401	1527	0	410	1783	0	65	1860	0	119	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			2			1			6	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		373			460			670			1388	
Travel Time (s)		10.2			12.5			15.2			31.5	
Confl. Peds. (#/hr)			7			7			6			1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	85	8	199	20	7	2	58	1367	8	6	1811	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	207	0	20	9	0	58	1375	0	6	1895	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)	160	160		60	60		60	240		60	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		59	59		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	77	77						117			117	
Detector 2 Size(ft)	6	6						6			6	
Detector 2 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0						0.0			0.0	
Detector 3 Position(ft)	154	154						234			234	

Lanes, Volumes, Timings
148: George Washington Way & Knight St

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6						6			6	
Detector 3 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0						0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.5	25.5		24.5	24.5		24.0	24.0		21.0	21.0	
Total Split (s)	26.0	26.0		26.0	26.0		114.0	114.0		114.0	114.0	
Total Split (%)	18.6%	18.6%		18.6%	18.6%		81.4%	81.4%		81.4%	81.4%	
Maximum Green (s)	20.5	20.5		20.5	20.5		108.5	108.5		108.5	108.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-1.0	-2.0		-2.0	-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.5	3.5		3.5	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0		6.0	6.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	14.0	14.0		13.0	13.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	18.2	18.2		18.2	18.2		113.3	114.3		114.3	113.8	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.81	0.82		0.82	0.81	
v/c Ratio	0.47	0.86		0.38	0.04		1.12	0.91		0.06	1.26	
Control Delay	52.6	63.2		74.9	44.5		115.6	7.2		2.0	130.1	
Queue Delay	0.0	0.5		0.0	0.0		0.0	7.4		0.0	0.5	
Total Delay	52.6	63.8		74.9	44.5		115.6	14.5		2.0	130.6	
LOS	D	E		E	D		F	B		A	F	
Approach Delay		60.5			65.5			18.6			130.2	
Approach LOS		E			E			B			F	
Queue Length 50th (ft)	51	84		17	6		~60	153		0	~2180	
Queue Length 95th (ft)	m85	m#198		45	22		m#61	m123		m0	m213	
Internal Link Dist (ft)		293			380			590			1308	
Turn Bay Length (ft)	125			80			150			150		
Base Capacity (vph)	220	281		64	281		52	1519		96	1503	
Starvation Cap Reductn	0	0		0	0		0	126		0	21	
Spillback Cap Reductn	0	6		0	0		0	0		0	192	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.39	0.75		0.31	0.03		1.12	0.99		0.06	1.45	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 9 (6%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

148: George Washington Way & Knight St

11/25/2019

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 80.4

Intersection LOS: F

Intersection Capacity Utilization 111.2%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

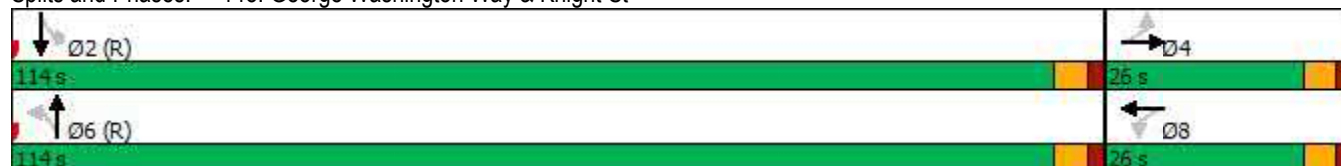
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 148: George Washington Way & Knight St



Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	65	18	15	36	1297	34	45	1647	30
Future Volume (vph)	0	0	0	65	18	15	36	1297	34	45	1647	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99							
Frt					0.979			0.996			0.997	
Flt Protected					0.968		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1756	0	1770	1855	0	1770	1857	0
Flt Permitted					0.968		0.034			0.034		
Satd. Flow (perm)	0	0	0	0	1756	0	63	1855	0	63	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			3				2
Link Speed (mph)		25			25			30				30
Link Distance (ft)		178			454			652				670
Travel Time (s)		4.9			12.4			14.8				15.2
Confl. Peds. (#/hr)						4						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	0	0	77	21	18	43	1544	40	54	1961	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	116	0	43	1584	0	54	1997	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		1	3		1	3	
Detector Template												
Leading Detector (ft)				60	60		60	240		60	240	
Trailing Detector (ft)				1	1		1	1		1	1	
Detector 1 Position(ft)				1	1		1	1		1	1	
Detector 1 Size(ft)				59	59		59	6		59	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	

Lanes, Volumes, Timings
152: George Washington Way & Lee Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)								0.0			0.0	
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			6			2	
Permitted Phases				8			6			2		
Detector Phase				8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)				4.0	4.0		10.0	10.0		10.0	10.0	
Minimum Split (s)				23.5	23.5		24.0	24.0		24.0	24.0	
Total Split (s)				24.0	24.0		116.0	116.0		116.0	116.0	
Total Split (%)				17.1%	17.1%		82.9%	82.9%		82.9%	82.9%	
Maximum Green (s)				18.5	18.5		110.5	110.5		110.5	110.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)					-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)					4.0		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode				None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)				6.0	6.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)				12.0	12.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)				2	2		0	0		0	0	
Act Effct Green (s)					13.4		119.1	119.1		119.1	119.1	
Actuated g/C Ratio					0.10		0.85	0.85		0.85	0.85	
v/c Ratio					0.67		0.81	1.00		1.02	1.26	
Control Delay					75.8		73.5	30.7		61.8	132.9	
Queue Delay					0.0		0.0	6.1		0.0	1.2	
Total Delay					75.9		73.5	36.7		61.8	134.1	
LOS					E		E	D		E	F	
Approach Delay					75.9			37.7			132.2	
Approach LOS					E			D			F	
Queue Length 50th (ft)					98		14	~1145		13	~2284	
Queue Length 95th (ft)					147		m#53	#1625		m12	m#1668	
Internal Link Dist (ft)		98			374			572			590	
Turn Bay Length (ft)							150			150		
Base Capacity (vph)					256		53	1578		53	1580	
Starvation Cap Reductn					0		0	0		0	28	
Spillback Cap Reductn					1		0	32		0	443	
Storage Cap Reductn					0		0	0		0	0	
Reduced v/c Ratio					0.45		0.81	1.02		1.02	1.76	
Intersection Summary												
Area Type:	Other											
Cycle Length: 140												
Actuated Cycle Length: 140												
Offset: 1 (1%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green												

Lanes, Volumes, Timings

152: George Washington Way & Lee Blvd

11/25/2019

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 89.9

Intersection LOS: F

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

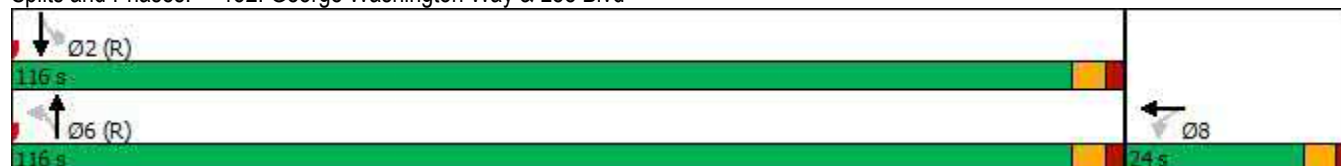
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 152: George Washington Way & Lee Blvd



Lanes, Volumes, Timings
156: George Washington Way & Jadwin Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	1059	5	1	2	404	1375	0	1	1763	10
Future Volume (vph)	7	0	1059	5	1	2	404	1375	0	1	1763	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		0	0		0	90		0	150		0
Storage Lanes	1		1	0		0	1		1	1		0
Taper Length (ft)	65			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.966							0.999
Flt Protected		0.950			0.970		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1745	0	1770	1863	1863	1770	1861	0
Flt Permitted							0.041			0.096		
Satd. Flow (perm)	0	1863	1583	0	1799	0	76	1863	1863	179	1861	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			406		2							
Link Speed (mph)		30			20			35			30	
Link Distance (ft)		439			211			736			652	
Travel Time (s)		10.0			7.2			14.3			14.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	0	1164	5	1	2	444	1511	0	1	1937	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	1164	0	8	0	444	1511	0	1	1948	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		20	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	3	1	1	3	
Detector Template												
Leading Detector (ft)	60	60	60	60	60		75	240	60	60	240	
Trailing Detector (ft)	1	1	1	1	1		25	1	1	1	1	
Detector 1 Position(ft)	1	1	1	1	1		25	1	1	1	1	
Detector 1 Size(ft)	59	59	59	59	59		50	6	59	59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)								117			117	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Detector 3 Position(ft)								234			234	
Detector 3 Size(ft)								6			6	
Detector 3 Type								Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings
156: George Washington Way & Jadwin Ave

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)								0.0				0.0
Turn Type	Perm	NA	Free	Perm	NA		pm+pt	NA	Perm	Perm		NA
Protected Phases		4			8		1	6				2
Permitted Phases	4		Free	8			6		6	2		
Detector Phase	4	4		8	8		1	6	6	2		2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	10.0	10.0	10.0		10.0
Minimum Split (s)	20.5	20.5		20.5	20.5		9.5	27.0	27.0	21.0		21.0
Total Split (s)	21.0	21.0		21.0	21.0		36.0	119.0	119.0	83.0		83.0
Total Split (%)	15.0%	15.0%		15.0%	15.0%		25.7%	85.0%	85.0%	59.3%		59.3%
Maximum Green (s)	15.5	15.5		15.5	15.5		30.5	113.5	113.5	77.5		77.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		-1.5			-1.5		-1.0	-3.0	-1.0	-2.0		-2.0
Total Lost Time (s)		4.0			4.0		4.5	2.5	4.5	3.5		3.5
Lead/Lag							Lag			Lead		Lead
Lead-Lag Optimize?							Yes			Yes		Yes
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5		0.5
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max		C-Max
Walk Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0		6.0
Flash Dont Walk (s)	9.0	9.0		9.0	9.0			9.0	9.0	9.0		9.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0	0		0
Act Effct Green (s)		5.9	140.0		5.8		133.3	137.3		98.3		98.3
Actuated g/C Ratio		0.04	1.00		0.04		0.95	0.98		0.70		0.70
v/c Ratio		0.10	0.74		0.11		0.98	0.83		0.01		1.49
Control Delay		63.9	5.8		59.4		83.1	6.6		6.0		241.2
Queue Delay		0.0	0.0		0.0		0.0	2.3		0.0		0.1
Total Delay		63.9	5.8		59.4		83.1	8.9		6.0		241.3
LOS		E	A		E		F	A		A		F
Approach Delay		6.2			59.4			25.8				241.2
Approach LOS		A			E			C				F
Queue Length 50th (ft)		7	130		5		349	0		0		~2431
Queue Length 95th (ft)		m7	m0		24		#584	754		m0		m#1829
Internal Link Dist (ft)		359			131			656				572
Turn Bay Length (ft)							90			150		
Base Capacity (vph)		226	1583		220		453	1827		125		1306
Starvation Cap Reductn		0	0		0		0	18		0		44
Spillback Cap Reductn		0	0		0		0	195		0		0
Storage Cap Reductn		0	0		0		0	0		0		0
Reduced v/c Ratio		0.04	0.74		0.04		0.98	0.93		0.01		1.54

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 38 (27%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Lanes, Volumes, Timings

156: George Washington Way & Jadwin Ave

11/25/2019

Maximum v/c Ratio: 1.49

Intersection Signal Delay: 103.9

Intersection LOS: F

Intersection Capacity Utilization 131.0%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

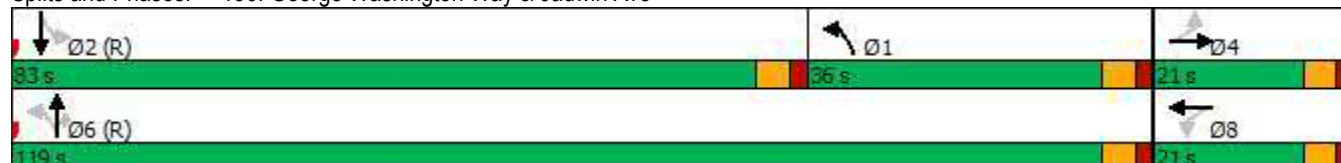
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 156: George Washington Way & Jadwin Ave















Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	155	61	79	196	54	44	425	73	40	656	100
Future Volume (vph)	75	155	61	79	196	54	44	425	73	40	656	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		155	160		150	125		185	150		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	3468	0
Flt Permitted	0.437			0.555			0.311			0.454		
Satd. Flow (perm)	814	1863	1583	1034	1863	1583	579	1863	1583	846	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			69			61			83		40	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		1755			936			936			1364	
Travel Time (s)		39.9			21.3			21.3			26.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	85	176	69	90	223	61	50	483	83	45	745	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	176	69	90	223	61	50	483	83	45	859	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100	20	20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0	26.0	44.0	44.0	44.0	44.0	44.0	

Lanes, Volumes, Timings
220: Jadwin Ave & Williams Ave

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	38.5	38.5	38.5	38.5	38.5	38.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	12.4	12.4	12.4	12.4	12.4	12.4	48.6	48.6	48.6	48.6	48.6	48.6
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.69	0.69	0.69	0.69	0.69	0.69
v/c Ratio	0.59	0.53	0.20	0.49	0.68	0.18	0.12	0.37	0.07	0.08	0.36	0.36
Control Delay	42.2	31.3	7.8	31.0	33.4	7.5	3.6	3.9	0.9	4.9	5.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	31.3	7.8	31.0	33.4	7.5	3.6	3.9	0.9	4.9	5.1	5.1
LOS	D	C	A	C	C	A	A	A	A	A	A	A
Approach Delay	29.2			28.6			3.5			5.1		
Approach LOS	C			C			A			A		
Queue Length 50th (ft)	34	70	0	39	99	3	2	25	0	5	60	60
Queue Length 95th (ft)	70	112	27	m58	131	m17	m19	133	9	18	109	109
Internal Link Dist (ft)	1675			856			856			1284		
Turn Bay Length (ft)	150		155	160		150	125		185	150		
Base Capacity (vph)	250	572	534	317	572	528	401	1292	1124	587	2419	2419
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.31	0.13	0.28	0.39	0.12	0.12	0.37	0.07	0.08	0.36	0.36

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 19 (27%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 12.2

Intersection LOS: B

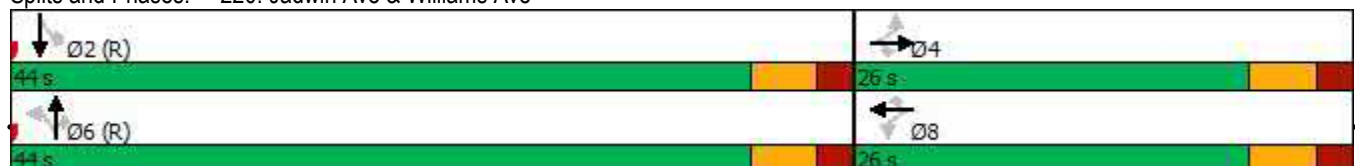
Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 220: Jadwin Ave & Williams Ave




Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	363	167	44	305	69	35	430	39	56	961	56
Future Volume (vph)	96	363	167	44	305	69	35	430	39	56	961	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		200	100		0	120		200	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			65			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.972			0.988			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3440	0	1770	1840	0	1770	1848	0
Flt Permitted	0.354			0.119			0.082			0.409		
Satd. Flow (perm)	659	1863	1583	222	3440	0	153	1840	0	762	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129		19			7			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1167			385			988			1152	
Travel Time (s)		26.5			8.8			22.5			26.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	403	186	49	339	77	39	478	43	62	1068	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	403	186	49	416	0	39	521	0	62	1130	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes						Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		97.0	97.0		97.0	97.0	

Lanes, Volumes, Timings
224: Jadwin Ave & Swift Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.7%	30.7%	30.7%	30.7%	30.7%		69.3%	69.3%		69.3%	69.3%	
Maximum Green (s)	37.5	37.5	37.5	37.5	37.5		91.5	91.5		91.5	91.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	9.0	9.0	9.0	9.0	9.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	33.6	33.6	33.6	33.6	33.6		97.4	97.4		97.4	97.4	
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.70	0.70		0.70	0.70	
v/c Ratio	0.68	0.90	0.39	0.92	0.50		0.37	0.41		0.12	0.88	
Control Delay	69.3	75.2	16.2	74.2	33.2		12.7	2.8		7.6	26.0	
Queue Delay	0.0	0.2	0.0	0.0	0.0		0.0	0.0		0.0	1.2	
Total Delay	69.3	75.4	16.2	74.2	33.2		12.7	2.8		7.6	27.2	
LOS	E	E	B	E	C		B	A		A	C	
Approach Delay	58.7				37.5		3.5			26.2		
Approach LOS	E				D		A			C		
Queue Length 50th (ft)	88	354	41	32	119		2	25		17	677	
Queue Length 95th (ft)	157	#471	106	m18	m71		11	60		35	#1251	
Internal Link Dist (ft)	1087				305		908			1072		
Turn Bay Length (ft)	145		200	100			120			150		
Base Capacity (vph)	181	512	528	61	959		106	1282		530	1287	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	4	3	0	0		0	0		0	47	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.59	0.79	0.35	0.80	0.43		0.37	0.41		0.12	0.91	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 139 (99%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 31.4

Intersection LOS: C

Intersection Capacity Utilization 87.7%

ICU Level of Service E

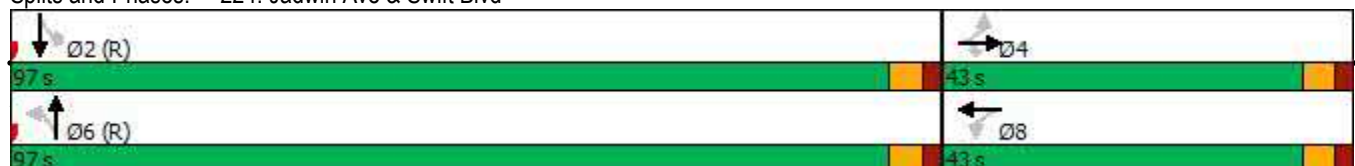
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 224: Jadwin Ave & Swift Blvd















Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	106	87	52	80	31	35	424	41	76	1166	51
Future Volume (vph)	19	106	87	52	80	31	35	424	41	76	1166	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	125		0	125		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			30		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.95			0.99			0.99			0.99	
Frt		0.932			0.958			0.987			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1643	0	1770	1763	0	1770	1828	0	1770	1837	0
Flt Permitted	0.506			0.228			0.057			0.439		
Satd. Flow (perm)	943	1643	0	425	1763	0	106	1828	0	818	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			12			11			5	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		433			373			646			409	
Travel Time (s)		11.8			10.2			14.7			9.3	
Confl. Peds. (#/hr)			23			6			11			39
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	21	119	98	58	90	35	39	476	46	85	1310	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	217	0	58	125	0	39	522	0	85	1367	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3		3	3		3	3		3	3	
Detector Template												
Leading Detector (ft)	200	200		160	160		240	240		240	240	
Trailing Detector (ft)	1	1		1	1		1	1		1	1	
Detector 1 Position(ft)	1	1		1	1		1	1		1	1	
Detector 1 Size(ft)	6	6		6	6		6	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	97	97		77	77		117	117		117	117	
Detector 2 Size(ft)	6	6		6	6		6	6		6	6	
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 3 Position(ft)	194	194		154	154		234	234		234	234	

Lanes, Volumes, Timings
228: Jadwin Ave & Knight St

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6		6	6		6	6		6	6	
Detector 3 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		23.5	23.5		23.5	23.5		21.5	21.5	
Total Split (s)	27.0	27.0		27.0	27.0		113.0	113.0		113.0	113.0	
Total Split (%)	19.3%	19.3%		19.3%	19.3%		80.7%	80.7%		80.7%	80.7%	
Maximum Green (s)	21.5	21.5		21.5	21.5		107.5	107.5		107.5	107.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		3.5	3.5		3.5	3.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	7.0	7.0		9.0	9.0		9.0	9.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	19.7	19.7		19.7	19.7		112.8	112.8		112.8	112.8	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.81	0.81		0.81	0.81	
v/c Ratio	0.16	0.86		0.98	0.48		0.46	0.35		0.13	0.92	
Control Delay	54.0	81.0		118.2	44.4		30.1	4.8		3.6	14.9	
Queue Delay	0.0	0.5		0.0	0.0		0.0	0.4		0.0	46.3	
Total Delay	54.0	81.5		118.2	44.4		30.1	5.2		3.6	61.2	
LOS	D	F		F	D		C	A		A	E	
Approach Delay		79.1			67.8			7.0			57.8	
Approach LOS		E			E			A			E	
Queue Length 50th (ft)	17	172		53	93		10	233		12	243	
Queue Length 95th (ft)	43	#278		m57	m92		m51	m264		m21	#1451	
Internal Link Dist (ft)		353			293			566			329	
Turn Bay Length (ft)	165			125			125			200		
Base Capacity (vph)	154	290		69	299		85	1474		658	1480	
Starvation Cap Reductn	0	0		0	0		0	495		0	0	
Spillback Cap Reductn	0	5		0	0		0	0		0	471	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.76		0.84	0.42		0.46	0.53		0.13	1.35	
Intersection Summary												
Area Type:	Other											
Cycle Length: 140												
Actuated Cycle Length: 140												
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green, Master Intersection												

Lanes, Volumes, Timings

228: Jadwin Ave & Knight St

11/25/2019

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 48.9

Intersection LOS: D

Intersection Capacity Utilization 90.6%

ICU Level of Service E

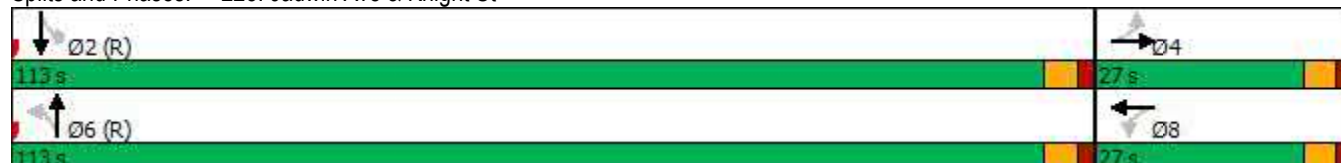
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 228: Jadwin Ave & Knight St



Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	23	242	21	59	15	108	266	10	10	1082	195
Future Volume (vph)	225	23	242	21	59	15	108	266	10	10	1082	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		230	0		0	140		0	125		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.94					1.00			1.00	
Frt			0.850		0.979			0.995			0.977	
Flt Protected	0.950				0.989		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1804	0	1770	1852	0	1770	1813	0
Flt Permitted	0.950				0.989		0.046			0.575		
Satd. Flow (perm)	1770	1863	1494	0	1804	0	86	1852	0	1071	1813	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			256		5			3			11	
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		1684			202			606			646	
Travel Time (s)		38.3			5.5			13.8			14.7	
Confl. Peds. (#/hr)			9						2			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	247	25	266	23	65	16	119	292	11	11	1189	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	25	266	0	104	0	119	303	0	11	1403	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	3	3	1	2		1	3		1	3	
Detector Template												
Leading Detector (ft)	220	220	220	60	150		60	240		60	240	
Trailing Detector (ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Position(ft)	1	1	1	1	1		1	1		1	1	
Detector 1 Size(ft)	6	6	6	59	6		59	6		59	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	107	107	107		144			117			117	
Detector 2 Size(ft)	6	6	6		6			6			6	
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0		0.0			0.0			0.0	
Detector 3 Position(ft)	214	214	214					234			234	

Lanes, Volumes, Timings
232: Jadwin Ave & Lee Blvd

11/25/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6	6	6					6			6	
Detector 3 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex			Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0	0.0	0.0					0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		1	6			2	
Permitted Phases			4				6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	21.5		24.5	24.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	94.0		84.0	84.0	
Total Split (%)	16.4%	16.4%	16.4%	16.4%	16.4%		7.1%	67.1%		60.0%	60.0%	
Maximum Green (s)	17.5	17.5	17.5	17.5	17.5		4.5	88.5		78.5	78.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	3.5	3.5	3.5		3.5		3.5	3.5		3.5	3.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	0.5	0.5	0.5	2.0	2.0		0.5	0.5		0.5	0.5	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	9.0	9.0	9.0	9.0	9.0			9.0		9.0	9.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0			7.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)	19.5	19.5	19.5		14.1		95.9	95.9		83.3	83.3	
Actuated g/C Ratio	0.14	0.14	0.14		0.10		0.68	0.68		0.60	0.60	
v/c Ratio	1.00	0.10	0.62		0.56		0.70	0.24		0.02	1.30	
Control Delay	117.7	53.8	14.2		68.1		25.6	8.8		10.3	160.2	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay	117.7	53.8	14.2		68.1		25.6	8.8		10.3	160.3	
LOS	F	D	B		E		C	A		B	F	
Approach Delay		63.5			68.1			13.5			159.2	
Approach LOS		E			E			B			F	
Queue Length 50th (ft)	~229	20	8		87		29	135		3	~1658	
Queue Length 95th (ft)	#410	49	97		145		m53	m248		m4	m#1894	
Internal Link Dist (ft)		1604			122			526			566	
Turn Bay Length (ft)	225		230				140			125		
Base Capacity (vph)	246	259	428		255		169	1270		636	1082	
Starvation Cap Reductn	0	0	0		0		0	0		0	31	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	1.00	0.10	0.62		0.41		0.70	0.24		0.02	1.33	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 31 (22%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Lanes, Volumes, Timings

232: Jadwin Ave & Lee Blvd

11/25/2019

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.30

Intersection Signal Delay: 109.8

Intersection LOS: F

Intersection Capacity Utilization 103.9%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

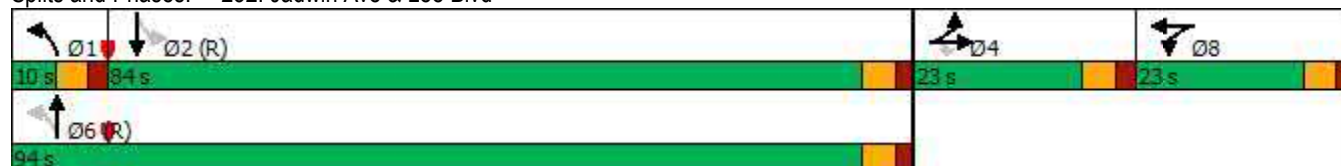
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 232: Jadwin Ave & Lee Blvd



Lanes, Volumes, Timings
822: Jadwin Ave

11/25/2019

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	44	53	351	1022	322
Future Volume (vph)	40	44	53	351	1022	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			190
Storage Lanes	1	0	1			0
Taper Length (ft)	25		70			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.929				0.968	
Flt Protected	0.977		0.950			
Satd. Flow (prot)	1691	0	1770	1863	1803	0
Flt Permitted	0.977		0.950			
Satd. Flow (perm)	1691	0	1770	1863	1803	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	539			439	606	
Travel Time (s)	12.3			10.0	13.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	49	59	390	1136	358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	0	59	390	1494	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	85.0%			ICU Level of Service E		
Analysis Period (min)	15					

Appendix D

Planning Level Cost Estimates

**ENGINEER'S OPINION OF PROBABLE COST****PROJECT: 30-19-045****PROJECT DESCRIPTION: COUPLET OPTION LOW****CLIENT: CITY OF RICHLAND**

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 387,600.00	\$ 387,600
2	REMOVING ASPHALT CONC. PAVEMENT	1,000	S.Y.	\$ 20.00	\$ 20,000
3	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 100,000.00	\$ 100,000
4	REMOVAL OF CEMENT CONC. SIDEWALK	2,300	S.Y.	\$ 15.00	\$ 34,500
GRADING					
5	ROADWAY EXCAVATION INCL. HAUL	700	C.Y.	\$ 20.00	\$ 14,000
6	EMBANKMENT COMPACTION	1,300	C.Y.	\$ 8.00	\$ 10,400
7	COMMON BORROW INCL HAUL	600	C.Y.	\$ 18.00	\$ 10,800
DRAINAGE					
8	DRAINAGE	1	L.S.	\$ 61,000.00	\$ 61,000
STRUCTURE					
9	RETAINING WALL	0	S.F.	\$ 90.00	\$ -
10	OVERPASS BRIDGE	4,200	S.F.	\$ 250.00	\$ 1,050,000
SURFACING					
11	CRUSHED SURFACING BASE COURSE (9")	5,000	TON	\$ 30.00	\$ 150,000
12	CRUSHED SURFACING TOP COURSE (2")	400	TON	\$ 30.00	\$ 12,000
HOT MIX ASPHALT					
13	HMA CL. 1/2 IN. PG 64-28H (2")	0	TON	\$ 110.00	\$ -
14	HMA CL. 1/2 IN. PG 64-28H (9")	5,600	TON	\$ 110.00	\$ 616,000
IRRIGATION AND WATER DISTRIBUTION					
15	IRRIGATION SYSTEM	1	L.S.	\$ 100,000.00	\$ 100,000
EROSION CONTROL AND ROADSIDE PLANTING					
16	PLANTERS	0	L.F.	\$ 10.00	\$ -
17	SEEDING	2.5	ACRE	\$ 6,000.00	\$ 15,000
18	LANDSCAPING/HARDSCAPING	2,500	SF	\$ 40.00	\$ 100,000
19	SITE RESTORATION	1	L.S.	\$ 100,000.00	\$ 100,000
TRAFFIC					
20	CEMENT CONC. CURB RAMP	107	EA.	\$ 1,200.00	\$ 128,400
21	SIGNAL RECONFIGURATION	9	EA.	\$ 50,000.00	\$ 450,000
22	FLASHING CROSS WALK (RRFB)	0	EA.	\$ 20,000.00	\$ -
23	CEMENT CONC. SIDEWALK	2,900	S.Y.	\$ 40.00	\$ 116,000
24	BULBOUTS	0		\$ 1,500.00	\$ -
25	CEMENT CONC. TRAFFIC CURB AND GUTTER	0	L.F.	\$ 15.00	\$ -
26	PRECAST CONC. BARRIER TYPE 2	0	L.F.	\$ 90.00	\$ -
27	PAINT LINE	41,000	L.F.	\$ 1.00	\$ 41,000
28	PERMANENT SIGNING	1	L.S.	\$ 100,000.00	\$ 100,000
29	ILLUMINATION SYSTEM	0	L.S.	\$ 411,000.00	\$ -
30	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
OTHER ITEMS					
31	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
32	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
33	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 4,264,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 1,279,200
CONSTRUCTION TOTAL					\$ 5,543,200
PRELIMINARY ENGINEERING @ 15%					\$ 831,480
CONSTRUCTION ENGINEERING @ 10%					\$ 554,320
TOTAL ESTIMATED COST (2019 DOLLARS)					\$ 6,929,000



ENGINEER'S OPINION OF PROBABLE COST

PROJECT: 30-19-045

PROJECT DESCRIPTION: COUPLET OPTION HIGH

CLIENT: CITY OF RICHLAND

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 722,900.00	\$ 722,900
2	REMOVING ASPHALT CONC. PAVEMENT	17,000	S.Y.	\$ 20.00	\$ 340,000
3	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 100,000.00	\$ 100,000
4	REMOVAL OF CEMENT CONC. SIDEWALK	2,300	S.Y.	\$ 15.00	\$ 34,500
GRADING					
5	ROADWAY EXCAVATION INCL. HAUL	1,300	C.Y.	\$ 20.00	\$ 26,000
6	EMBANKMENT COMPACTION	2,000	C.Y.	\$ 8.00	\$ 16,000
7	COMMON BORROW INCL HAUL	700	C.Y.	\$ 18.00	\$ 12,600
DRAINAGE					
8	DRAINAGE	1	L.S.	\$ 648,000.00	\$ 648,000
STRUCTURE					
9	RETAINING WALL	400	S.F.	\$ 90.00	\$ 36,000
10	OVERPASS BRIDGE	4,200	S.F.	\$ 250.00	\$ 1,050,000
SURFACING					
11	CRUSHED SURFACING BASE COURSE (9")	5,000	TON	\$ 30.00	\$ 150,000
12	CRUSHED SURFACING TOP COURSE (2")	1,500	TON	\$ 30.00	\$ 45,000
HOT MIX ASPHALT					
13	HMA CL. 1/2 IN. PG 64-28H (2")	6,800	TON	\$ 110.00	\$ 748,000
14	HMA CL. 1/2 IN. PG 64-28H (9")	5,600	TON	\$ 110.00	\$ 616,000
IRRIGATION AND WATER DISTRIBUTION					
15	IRRIGATION SYSTEM	1	L.S.	\$ 100,000.00	\$ 100,000
EROSION CONTROL AND ROADSIDE PLANTING					
16	PLANTERS	12,400	L.F.	\$ 10.00	\$ 124,000
17	SEEDING	2.5	ACRE	\$ 6,000.00	\$ 15,000
18	LANDSCAPING/HARDSCAPING	2,500	SF	\$ 40.00	\$ 100,000
19	SITE RESTORATION	1	L.S.	\$ 100,000.00	\$ 100,000
TRAFFIC					
20	FLASHING CROSS WALK (RRFB)	9	EA.	\$ 20,000.00	\$ 180,000
21	CEMENT CONC. CURB RAMP	125	EA.	\$ 1,200.00	\$ 150,000
22	SIGNAL RECONFIGURATION	9	EA.	\$ 50,000.00	\$ 450,000
23	CEMENT CONC. SIDEWALK	14,000	S.Y.	\$ 40.00	\$ 560,000
24	BULBOUTS	0		\$ 1,500.00	\$ -
25	CEMENT CONC. TRAFFIC CURB AND GUTTER	25,000	L.F.	\$ 15.00	\$ 375,000
26	PRECAST CONC. BARRIER TYPE 2	600	L.F.	\$ 90.00	\$ 54,000
27	PAINT LINE	41,000	L.F.	\$ 1.00	\$ 41,000
28	PERMANENT SIGNING	1	L.S.	\$ 100,000.00	\$ 100,000
29	ILLUMINATION SYSTEM	1	L.S.	\$ 411,000.00	\$ 411,000
30	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
OTHER ITEMS					
31	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
32	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
33	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 7,952,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 2,385,600
CONSTRUCTION TOTAL					\$ 10,337,600
PRELIMINARY ENGINEERING @ 15%					\$ 1,550,640
CONSTRUCTION ENGINEERING @ 10%					\$ 1,033,760
TOTAL ESTIMATED COST (2019 DOLLARS)					\$ 12,922,000



ENGINEER'S OPINION OF PROBABLE COST

PROJECT: 30-19-045

PROJECT DESCRIPTION: JADWIN OPTION LOW

CLIENT: CITY OF RICHLAND

J-U-B PROJ. NO.: 30-19-043

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 649,400.00	\$ 649,400
2	CLEARING AND GRUBBING	1	ACRE	\$ 6,000.00	\$ 6,000
3	REMOVAL OF TRAFFIC SIGNAL	2	L.S.	\$ 100,000.00	\$ 200,000
4	REMOVING ASPHALT CONC. PAVEMENT	12,000	S.Y.	\$ 20.00	\$ 240,000
5	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 100,000.00	\$ 100,000
6	REMOVAL CEMENT OF CONC. SIDEWALK	10,700	S.Y.	\$ 15.00	\$ 160,500
GRADING					
7	ROADWAY EXCAVATION INCL. HAUL	1,000	C.Y.	\$ 20.00	\$ 20,000
8	EMBANKMENT COMPACTION	2,000	C.Y.	\$ 8.00	\$ 16,000
9	COMMON BORROW INCL HAUL	1,000	C.Y.	\$ 18.00	\$ 18,000
DRAINAGE					
10	DRAINAGE	1	L.S.	\$ 6,768.00	\$ 6,768
STRUCTURE					
11	RETAINING WALL	500	S.F.	\$ 90.00	\$ 45,000
12	OVERPASS BRIDGE	7,200	S.F.	\$ 250.00	\$ 1,800,000
SURFACING					
13	CRUSHED SURFACING BASE COURSE (9")	11,600	TON	\$ 30.00	\$ 348,000
	CRUSHED SURFACING TOP COURSE (2")	1,300	TON	\$ 30.00	\$ 39,000
HOT MIX ASPHALT					
14	HMA CL. 1/2 IN. PG 64-28H (2")	0	TON	\$ 110.00	\$ -
	HMA CL. 1/2 IN. PG 64-28H (9")	13,000	TON	\$ 110.00	\$ 1,430,000
IRRIGATION AND WATER DISTRIBUTION					
15	IRRIGATION SYSTEM	1	L.S.	\$ 100,000.00	\$ 100,000
EROSION CONTROL AND ROADSIDE PLANTING					
16	SEEDING	1.0	ACRE	\$ 6,000.00	\$ 6,000
17	LANDSCAPING/HARDSCAPING	1	SF	\$ 40.00	\$ 40
18	SITE RESTORATION	1	L.S.	\$ 100,000.00	\$ 100,000
TRAFFIC					
18	SIGNAL RECONFIGURATION	0	EA	\$ 50,000.00	\$ -
19	ROUNDBOUT CONSTRUCTION	0	L.S.	\$ 3,000,000.00	\$ -
20	BULB OUTS	0	EA	\$ 3,000.00	\$ -
21	FLASHING CROSS WALK (RRFB)	0	EA	\$ 20,000.00	\$ -
22	CEMENT CONC. TRAFFIC CURB AND GUTTER	14,000	L.F.	\$ 15.00	\$ 210,000
23	CEMENT CONC. SIDEWALK	13,000	SY	\$ 40.00	\$ 520,000
24	CEMENT CONC. CURB RAMP	100	EA	\$ 1,200.00	\$ 120,000
25	PRECAST CONC. BARRIER TYPE 2	0	L.F.	\$ 90.00	\$ -
26	PAINT LINE	36,000	L.F.	\$ 1.00	\$ 36,000
27	PERMANENT SIGNING	1	L.S.	\$ 100,000.00	\$ 100,000
28	ILLUMINATION SYSTEM	1	L.S.	\$ 226,000.00	\$ 226,000
29	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
OTHER ITEMS					
30	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
31	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
32	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 7,144,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 2,143,200
CONSTRUCTION TOTAL					\$ 9,287,200
PRELIMINARY ENGINEERING @ 15%					\$ 1,393,080
CONSTRUCTION ENGINEERING @ 10%					\$ 928,720
TOTAL ESTIMATED COST (2019 DOLLARS)					\$ 11,609,000



ENGINEER'S OPINION OF PROBABLE COST

PROJECT: 30-19-045

PROJECT DESCRIPTION: JADWIN OPTION HIGH

CLIENT: CITY OF RICHLAND

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 814,100.00	\$ 814,100
2	CLEARING AND GRUBBING	1	ACRE	\$ 6,000.00	\$ 6,000
3	REMOVAL OF TRAFFIC SIGNAL	2	L.S.	\$ 100,000.00	\$ 200,000
4	REMOVING ASPHALT CONC. PAVEMENT	12,000	S.Y.	\$ 20.00	\$ 240,000
5	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 100,000.00	\$ 100,000
6	REMOVAL CEMENT OF CONC. SIDEWALK	11,500	S.Y.	\$ 15.00	\$ 172,500
GRADING					
7	ROADWAY EXCAVATION INCL. HAUL	1,000	C.Y.	\$ 20.00	\$ 20,000
8	EMBANKMENT COMPACTION	2,000	C.Y.	\$ 8.00	\$ 16,000
9	COMMON BORROW INCL HAUL	1,000	C.Y.	\$ 18.00	\$ 18,000
DRAINAGE					
10	DRAINAGE	1	L.S.	\$ 520,000.00	\$ 520,000
STRUCTURE					
11	RETAINING WALL	500	S.F.	\$ 90.00	\$ 45,000
12	OVERPASS BRIDGE	7,200	S.F.	\$ 250.00	\$ 1,800,000
SURFACING					
13	CRUSHED SURFACING BASE COURSE (9")	12,000	TON	\$ 30.00	\$ 360,000
	CRUSHED SURFACING TOP COURSE (2")	2,100	TON	\$ 30.00	\$ 63,000
HOT MIX ASPHALT					
14	HMA CL. 1/2 IN. PG 64-28H (2")	3,400	TON	\$ 110.00	\$ 374,000
	HMA CL. 1/2 IN. PG 64-28H (9")	13,000	TON	\$ 110.00	\$ 1,430,000
IRRIGATION AND WATER DISTRIBUTION					
15	IRRIGATION SYSTEM	1	L.S.	\$ 100,000.00	\$ 100,000
EROSION CONTROL AND ROADSIDE PLANTING					
16	SEEDING	1.0	ACRE	\$ 6,000.00	\$ 6,000
17	LANDSCAPING/HARDSCAPING	1	SF	\$ 40.00	\$ 40
18	SITE RESTORATION	1	L.S.	\$ 100,000.00	\$ 100,000
TRAFFIC					
18	SIGNAL RECONFIGURATION	0	EA	\$ 50,000.00	\$ -
19	ROUNDBOUT CONSTRUCTION	0	L.S.	\$ 3,000,000.00	\$ -
20	BULB OUTS	30	EA	\$ 3,000.00	\$ 90,000
21	FLASHING CROSS WALK (RRFB)	5	EA	\$ 20,000.00	\$ 100,000
22	CEMENT CONC. TRAFFIC CURB AND GUTTER	21,000	L.F.	\$ 15.00	\$ 315,000
23	CEMENT CONC. SIDEWALK	20,000	SY	\$ 40.00	\$ 800,000
24	CEMENT CONC. CURB RAMP	110	EA	\$ 1,200.00	\$ 132,000
25	PRECAST CONC. BARRIER TYPE 2	0	L.F.	\$ 90.00	\$ -
26	PAINT LINE	36,000	L.F.	\$ 1.00	\$ 36,000
27	PERMANENT SIGNING	1	L.S.	\$ 100,000.00	\$ 100,000
28	ILLUMINATION SYSTEM	1	L.S.	\$ 350,000.00	\$ 350,000
29	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
OTHER ITEMS					
30	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
31	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
32	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 8,955,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 2,686,500
CONSTRUCTION TOTAL					\$ 11,641,500
PRELIMINARY ENGINEERING @ 15%					\$ 1,746,225
CONSTRUCTION ENGINEERING @ 10%					\$ 1,164,150
TOTAL ESTIMATED COST (2019 DOLLARS)					\$ 14,552,000

**ENGINEER'S OPINION OF PROBABLE COST****PROJECT: 30-19-045****PROJECT DESCRIPTION: ROAD DIET OPTION LOW****CLIENT: CITY OF RICHLAND**

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 122,200.00	\$ 122,200
2	REMOVING ASPHALT CONC. PAVEMENT	0	S.Y.	\$ 20.00	\$ -
3	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 100,000.00	\$ 100,000
4	REMOVAL OF CEMENT CONC. SIDEWALK	0	S.Y.	\$ 15.00	\$ -
GRADING					
5	ROADWAY EXCAVATION INCL. HAUL	0	C.Y.	\$ 20.00	\$ -
6	EMBANKMENT COMPACTION	0	C.Y.	\$ 8.00	\$ -
7	COMMON BORROW INCL HAUL	0	C.Y.	\$ 18.00	\$ -
DRAINAGE					
8	DRAINAGE	0	L.S.	\$ 500,000.00	\$ -
STRUCTURE					
SURFACING					
9	CRUSHED SURFACING BASE COURSE (9")	0	TON	\$ 30.00	\$ -
	CRUSHED SURFACING TOP COURSE (2")	0	TON	\$ 30.00	\$ -
HOT MIX ASPHALT					
10	HMA CL. 1/2 IN. PG 64-28H (2")	0	TON	\$ 110.00	\$ -
IRRIGATION AND WATER DISTRIBUTION					
11	IRRIGATION SYSTEM	1	L.S.	\$ 100,000.00	\$ 100,000
EROSION CONTROL AND ROADSIDE PLANTING					
12	PLANTERS	0	L.F.	\$ 10.00	\$ -
13	SEEDING	2.5	ACRE	\$ 6,000.00	\$ 15,000
14	LANDSCAPING/HARDSCAPING	2,500	SF	\$ 40.00	\$ 100,000
15	SITE RESTORATION	1	L.S.	\$ 100,000.00	\$ 100,000
TRAFFIC					
16	CEMENT CONC. CURB RAMP	0	EA	\$ 1,200.00	\$ -
17	FLASHING CROSS WALK (RRFB)	0	EA	\$ 20,000.00	\$ -
18	SIGNAL RECONFIGURATION	0	EA	\$ 50,000.00	\$ -
19	CEMENT CONC. SIDEWALK	0	S.Y.	\$ 40.00	\$ -
20	BULBOUTS	0	EA	\$ 3,000.00	\$ -
21	CEMENT CONC. TRAFFIC CURB AND GUTTER	0	L.F.	\$ 15.00	\$ -
22	PRECAST CONC. BARRIER TYPE 2	0	L.F.	\$ 90.00	\$ -
23	PAINT LINE	60,000	L.F.	\$ 1.00	\$ 60,000
24	PERMANENT SIGNING	1	L.S.	\$ 100,000.00	\$ 100,000
25	ILLUMINATION SYSTEM	0	L.S.	\$ 342,000.00	\$ -
26	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
OTHER ITEMS					
27	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
28	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
29	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 1,344,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 403,200
CONSTRUCTION TOTAL					\$ 1,747,200
PRELIMINARY ENGINEERING @ 15%					\$ 262,080
CONSTRUCTION ENGINEERING @ 10%					\$ 174,720
TOTAL ESTIMATED COST (2019 DOLLARS)					\$ 2,184,000



ENGINEER'S OPINION OF PROBABLE COST

PROJECT: 30-19-045

PROJECT DESCRIPTION: ROAD DIET OPTION HIGH

CLIENT: CITY OF RICHLAND

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 401,100.00	\$ 401,100
2	REMOVING ASPHALT CONC. PAVEMENT	5,700	S.Y.	\$ 20.00	\$ 114,000
3	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 100,000.00	\$ 100,000
4	REMOVAL OF CEMENT CONC. SIDEWALK	1,200	S.Y.	\$ 15.00	\$ 18,000
GRADING					
5	ROADWAY EXCAVATION INCL. HAUL	0	C.Y.	\$ 20.00	\$ -
6	EMBANKMENT COMPACTION	0	C.Y.	\$ 8.00	\$ -
7	COMMON BORROW INCL HAUL	0	C.Y.	\$ 18.00	\$ -
DRAINAGE					
8	DRAINAGE	1	L.S.	\$ 500,000.00	\$ 500,000
STRUCTURE					
SURFACING					
9	CRUSHED SURFACING BASE COURSE (9")	0	TON	\$ 30.00	\$ -
	CRUSHED SURFACING TOP COURSE (2")	3,800	TON	\$ 30.00	\$ 114,000
HOT MIX ASPHALT					
10	HMA CL. 1/2 IN. PG 64-28H (2")	6,200	TON	\$ 110.00	\$ 682,000
IRRIGATION AND WATER DISTRIBUTION					
11	IRRIGATION SYSTEM	1	L.S.	\$ 100,000.00	\$ 100,000
EROSION CONTROL AND ROADSIDE PLANTING					
12	PLANTERS	21,000	L.F.	\$ 10.00	\$ 210,000
13	SEEDING	2.5	ACRE	\$ 6,000.00	\$ 15,000
14	LANDSCAPING/HARDSCAPING	2,500	SF	\$ 40.00	\$ 100,000
15	SITE RESTORATION	1	L.S.	\$ 100,000.00	\$ 100,000
TRAFFIC					
16	CEMENT CONC. CURB RAMP	101	EA	\$ 1,200.00	\$ 121,200
17	FLASHING CROSS WALK (RRFB)	10	EA	\$ 20,000.00	\$ 200,000
18	SIGNAL RECONFIGURATION	0	EA	\$ 50,000.00	\$ -
19	CEMENT CONC. SIDEWALK	8,000	S.Y.	\$ 40.00	\$ 320,000
20	BULBOUTS	0	EA	\$ 3,000.00	\$ -
21	CEMENT CONC. TRAFFIC CURB AND GUTTER	11,200	L.F.	\$ 15.00	\$ 168,000
22	PRECAST CONC. BARRIER TYPE 2	0	L.F.	\$ 90.00	\$ -
23	PAINT LINE	60,000	L.F.	\$ 1.00	\$ 60,000
24	PERMANENT SIGNING	1	L.S.	\$ 100,000.00	\$ 100,000
25	ILLUMINATION SYSTEM	1	L.S.	\$ 342,000.00	\$ 342,000
26	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
OTHER ITEMS					
27	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
28	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
29	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 4,412,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 1,323,600
CONSTRUCTION TOTAL					\$ 5,735,600
PRELIMINARY ENGINEERING @ 15%					\$ 860,340
CONSTRUCTION ENGINEERING @ 10%					\$ 573,560
TOTAL ESTIMATED COST (2019 DOLLARS)					\$ 7,170,000

**ENGINEER'S OPINION OF PROBABLE COST****PROJECT: 30-19-045****PROJECT DESCRIPTION: EXTENDED COUPLET LOW COST****CLIENT: CITY OF RICHLAND**

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 599,300.00	\$ 599,300
2	REMOVING ASPHALT CONC. PAVEMENT	11,400	S.Y.	\$ 20.00	\$ 228,000
3	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 150,000.00	\$ 150,000
4	REMOVAL OF CEMENT CONC. SIDEWALK	3,400	S.Y.	\$ 15.00	\$ 51,000
5	REMOVAL OF CONC. CURB AND GUTTER	17,200	L.F.	\$ 10.00	\$ 172,000
6	REMOVING TRAFFIC SIGNAL	2	EA.	\$ 100,000.00	\$ 200,000
GRADING					
7	ROADWAY EXCAVATION INCL. HAUL	1,000	C.Y.	\$ 20.00	\$ 20,000
8	EMBANKMENT COMPACTION	2,500	C.Y.	\$ 8.00	\$ 20,000
9	COMMON BORROW INCL HAUL	1,500	C.Y.	\$ 18.00	\$ 27,000
DRAINAGE					
10	DRAINAGE	1	L.S.	\$ 480,000.00	\$ 480,000
SURFACING					
11	CRUSHED SURFACING BASE COURSE (9")	3,100	TON	\$ 30.00	\$ 93,000
12	CRUSHED SURFACING TOP COURSE (2")	1,400	TON	\$ 30.00	\$ 42,000
HOT MIX ASPHALT					
12	HMA CL. 1/2 IN. PG 64H-28 (9")	3,500	TON	\$ 110.00	\$ 385,000
IRRIGATION AND WATER DISTRIBUTION					
13	IRRIGATION SYSTEM	1	L.S.	\$ 150,000.00	\$ 150,000
EROSION CONTROL AND ROADSIDE PLANTING					
14	SEEDING	3.0	ACRE	\$ 6,000.00	\$ 18,000
15	LANDSCAPING/HARDSCAPING	10,000	S.F.	\$ 40.00	\$ 400,000
16	SITE RESTORATION	1	L.S.	\$ 150,000.00	\$ 150,000
TRAFFIC					
17	RAISED BUFFER	13,300	L.F.	\$ 35.00	\$ 465,500
18	FLASHING CROSS WALK (RRFB)	8	EA.	\$ 20,000.00	\$ 160,000
19	CEMENT CONC. CURB RAMP	75	EA.	\$ 1,200.00	\$ 90,000
20	SIGNAL RECONFIGURATION	9	EA.	\$ 50,000.00	\$ 450,000
21	CEMENT CONC. SIDEWALK	12,400	S.Y.	\$ 40.00	\$ 496,000
22	BULBOUTS	16	EA.	\$ 1,500.00	\$ 24,000
23	CEMENT CONC. TRAFFIC CURB AND GUTTER	19,100	L.F.	\$ 15.00	\$ 286,500
24	PRECAST CONC. BARRIER TYPE 2	500	L.F.	\$ 90.00	\$ 45,000
25	PAINT LINE	48,800	L.F.	\$ 1.00	\$ 48,800
26	PERMANENT SIGNING	1	L.S.	\$ 150,000.00	\$ 150,000
27	ILLUMINATION SYSTEM	1	L.S.	\$ 500,000.00	\$ 500,000
28	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
29	CEMENT CONCRETE ISLAND	1,100	S.Y.	\$ 40.00	\$ 44,000
OTHER ITEMS					
30	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
31	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
32	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 6,592,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 1,977,600
CONSTRUCTION TOTAL					\$ 8,569,600
PRELIMINARY ENGINEERING @ 10%					\$ 856,960
CONSTRUCTION ENGINEERING @ 15%					\$ 1,285,440
TOTAL ESTIMATED COST (2020 DOLLARS)					\$ 10,712,000

**ENGINEER'S OPINION OF PROBABLE COST****PROJECT: 30-19-045****PROJECT DESCRIPTION: EXTENDED COUPLET HIGH COST****CLIENT: CITY OF RICHLAND**

J-U-B PROJ. NO.: 30-19-045

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
PREPARATION					
1	MOBILIZATION	1	L.S.	\$ 735,300.00	\$ 735,300
2	REMOVING ASPHALT CONC. PAVEMENT	11,400	S.Y.	\$ 20.00	\$ 228,000
3	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	L.S.	\$ 150,000.00	\$ 150,000
4	REMOVAL OF CEMENT CONC. SIDEWALK	3,400	S.Y.	\$ 15.00	\$ 51,000
5	REMOVAL OF CONC. CURB AND GUTTER	17,200	L.F.	\$ 10.00	\$ 172,000
6	REMOVING TRAFFIC SIGNAL	2	EA.	\$ 100,000.00	\$ 200,000
GRADING					
7	ROADWAY EXCAVATION INCL. HAUL	1,000	C.Y.	\$ 20.00	\$ 20,000
8	EMBANKMENT COMPACTION	2,500	C.Y.	\$ 8.00	\$ 20,000
9	COMMON BORROW INCL HAUL	1,500	C.Y.	\$ 18.00	\$ 27,000
DRAINAGE					
10	DRAINAGE	1	L.S.	\$ 960,000.00	\$ 960,000
SURFACING					
11	CRUSHED SURFACING BASE COURSE (9")	3,100	TON	\$ 30.00	\$ 93,000
12	CRUSHED SURFACING TOP COURSE (2")	1,400	TON	\$ 30.00	\$ 42,000
HOT MIX ASPHALT					
13	HMA CL. 1/2 IN. PG 64H-28 (9")	3,500	TON	\$ 110.00	\$ 385,000
14	HMA CL. 1/2 IN. PG 64H-28 (2")	8,000	TON	\$ 110.00	\$ 880,000
IRRIGATION AND WATER DISTRIBUTION					
15	IRRIGATION SYSTEM	1	L.S.	\$ 150,000.00	\$ 150,000
EROSION CONTROL AND ROADSIDE PLANTING					
16	SEEDING	3.0	ACRE	\$ 6,000.00	\$ 18,000
17	LANDSCAPING/HARDSCAPING	10,000	S.F.	\$ 40.00	\$ 400,000
18	SITE RESTORATION	1	L.S.	\$ 150,000.00	\$ 150,000
TRAFFIC					
19	RAISED BUFFER	13,300	L.F.	\$ 35.00	\$ 465,500
20	FLASHING CROSS WALK (RRFB)	8	EA.	\$ 20,000.00	\$ 160,000
21	CEMENT CONC. CURB RAMP	75	EA.	\$ 1,200.00	\$ 90,000
22	SIGNAL RECONFIGURATION	9	EA.	\$ 50,000.00	\$ 450,000
23	CEMENT CONC. SIDEWALK	12,400	S.Y.	\$ 40.00	\$ 496,000
24	BULBOUS	16	EA.	\$ 1,500.00	\$ 24,000
25	CEMENT CONC. TRAFFIC CURB AND GUTTER	19,100	L.F.	\$ 15.00	\$ 286,500
26	PRECAST CONC. BARRIER TYPE 2	500	L.F.	\$ 90.00	\$ 45,000
27	PAINT LINE	48,800	L.F.	\$ 1.00	\$ 48,800
28	PERMANENT SIGNING	1	L.S.	\$ 150,000.00	\$ 150,000
29	ILLUMINATION SYSTEM	1	L.S.	\$ 500,000.00	\$ 500,000
30	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	\$ 500,000.00	\$ 500,000
31	CEMENT CONCRETE ISLAND	1,100	S.Y.	\$ 40.00	\$ 44,000
OTHER ITEMS					
32	ROADWAY SURVEYING	1	L.S.	\$ 120,000.00	\$ 120,000
33	SPCC PLAN	1	L.S.	\$ 2,000.00	\$ 2,000
34	TESC PLAN	1	L.S.	\$ 25,000.00	\$ 25,000
SUBTOTAL CONSTRUCTION COST					\$ 8,088,000
SALES TAX @ 0%					0
CONTINGENCY @ 30%					\$ 2,426,400
CONSTRUCTION TOTAL					\$ 10,514,400
PRELIMINARY ENGINEERING @ 10%					\$ 1,051,440
CONSTRUCTION ENGINEERING @ 15%					\$ 1,577,160
TOTAL ESTIMATED COST (2020 DOLLARS)					\$ 13,143,000

Appendix E

Adopting Resolution

RESOLUTION NO. 98-20

A RESOLUTION of the City of Richland adopting the recommendations of the Downtown Connectivity Study.

WHEREAS, in 2018, Richland City Council adopted an update to its Strategic Leadership Plan; and

WHEREAS, the Strategic Leadership Plan includes six Core Focus Areas, including a core focus identified as Increase Economic Vitality; and

WHEREAS, an objective within the Increase Economic Vitality focus area is to improve streets to enhance walkability in the core downtown area; and

WHEREAS, the 2019 Budget included funds to complete a planning study to advance this objective; and

WHEREAS, the Downtown Connectivity Study (the "Study") was developed to advance Council's vision for a pedestrian-friendly waterfront and downtown, while maintaining or enhancing the vehicular travel flow; and

WHEREAS, the Study combined rigorous technical evaluation of four (4) street improvement alternatives with a robust public engagement process; and

WHEREAS, the public engagement process included four working meetings of a diverse Community Advisory Committee consisting of Richland residents, business owners, property owners, large institutions, and regional transportation planners; and

WHEREAS, the public engagement process also included opportunities for general public input through an open house meeting and an on-line survey; and

WHEREAS, the Study resulted in a recommendation to convert George Washington Way and Jadwin Avenue to one-way streets between Symons Avenue on the north and the intersection of George Washington Way and Jadwin Avenue on the south as the highest rated alternative to accomplishing the Study's objectives; and

WHEREAS, the recommended street modifications would result in northbound traffic on George Washington Way and southbound traffic on Jadwin Avenue; and

WHEREAS, implementing the recommended changes in vehicular travel will enable opportunities for on-street parking, widened sidewalks, bicycle lanes, and landscaping improvements; and

WHEREAS, the street improvement recommendations can be supplemented with improved control of pedestrian crossings to enhance pedestrian safety and comfort; and

WHEREAS, other alternatives evaluated by the Study were either less effective or more challenging to implement than the highest rated alternative.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Richland that the Downtown Connectivity Study recommendation to convert George Washington Way and Jadwin Avenue between Symons Street on the north and the intersection of George Washington Way and Jadwin Avenue on the south to one-way streets, as generally depicted in **Exhibit A** attached hereto, and to implement additional improvements to enhance the comfort and safety of pedestrians and bicyclists, and to provide additional on-street parking as space allows, is adopted as a planned capital improvement for the purposes of increasing economic vitality, improving pedestrian and bicycle travel comfort and safety, and sustaining adequate vehicular capacity.

BE IT FURTHER RESOLVED that the City will develop plans and strategies to achieve this improvement.

BE IT FURTHER RESOLVED that this Resolution shall take effect immediately.

ADOPTED by the City Council of the City of Richland, Washington, at a regular meeting on the 7th day of July, 2020.




Ryan Lukson, Mayor

Attest:

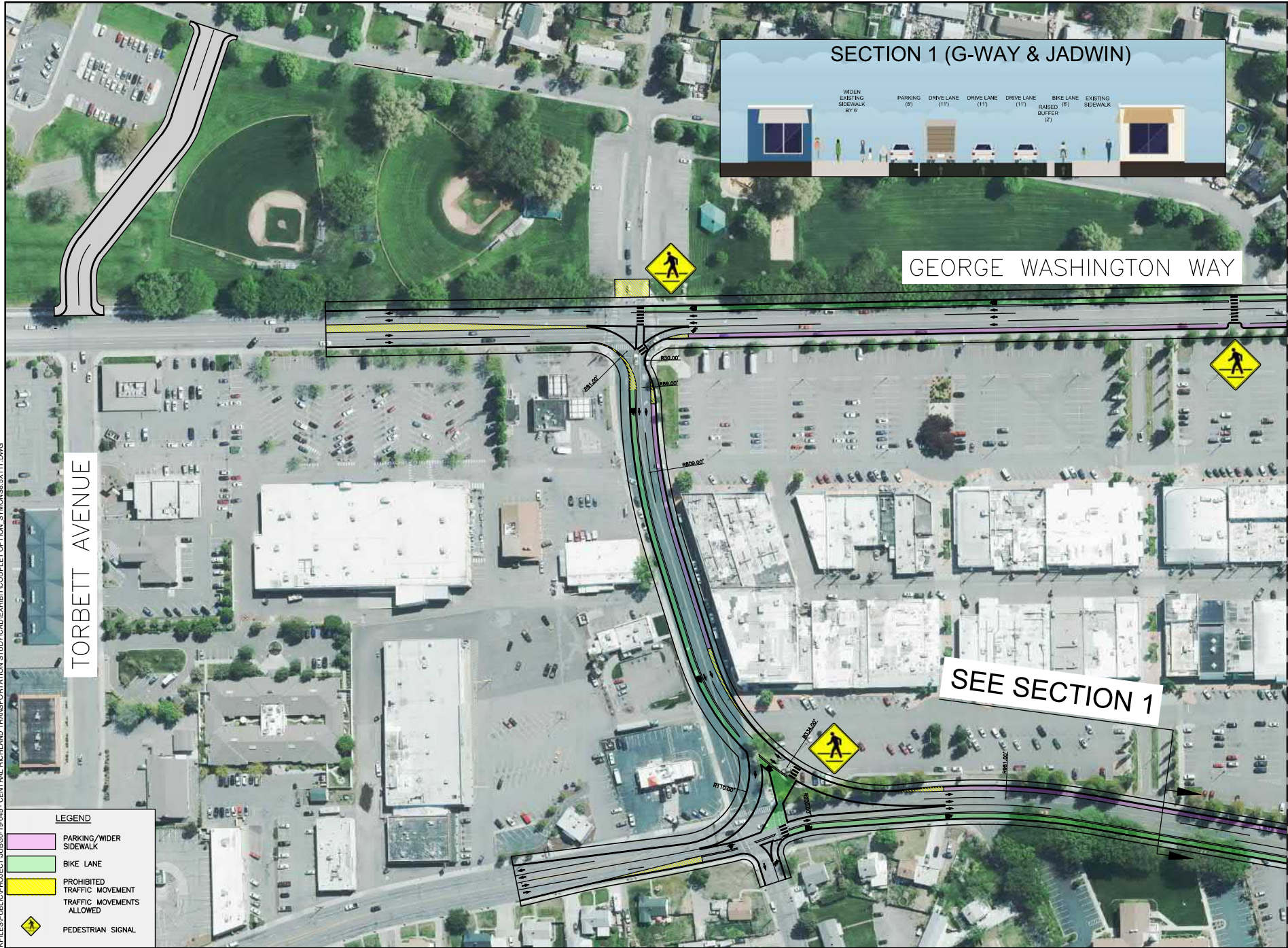


Jennifer Rogers, City Clerk

Approved as to form:



Heather Kintzley, City Attorney



Plot Date: 7/1/2020 2:07 PM Plotted By: William Gillen
Date Created: 7/1/2020 \\WKF\FILES\PROJECTS\JUB00-19-045 - CENTRAL RICHLAND TRANSPORTATION STUDY\CAD\EXHIBIT\COUPLETOPTION SYMONS8.5X11T.DWG

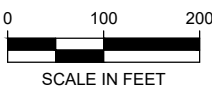


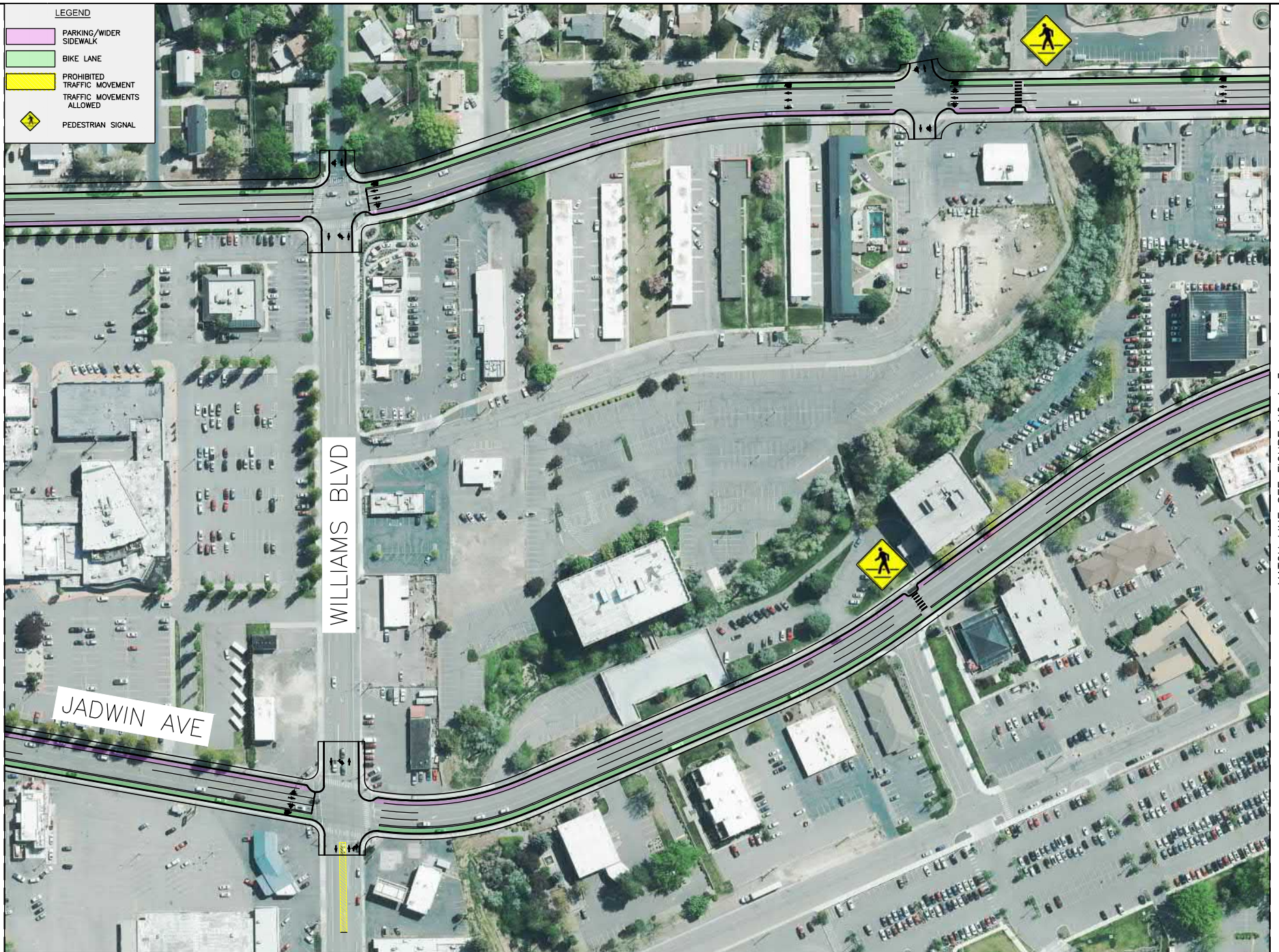
EXHIBIT A

CITY OF RICHLAND
DOWNTOWN CONNECTIVITY STUDY
EXTENDED ONE-WAY COUPLET ALTERNATIVE DETAIL

MATCH LINE SEE FIGURE NO A-2

Plot Date: 7/1/2020 11:48 AM Plotted By: William Gillen
Date Created: 7/1/2020 \\WKF\FILES\PROJECT\JUB00-19-045 - CENTRAL RICHLAND TRANSPORTATION STUDY\CAD\EXHIBIT\COUPLET\OPTION SYMONS8.5X11T.DWG

MATCH LINE SEE FIGURE NO A-1



Plot Date: 7/1/2020 11:48 AM Plotted By: William Gillen
Date Created: 7/1/2020 \\WKF\FILES\PROJECTS\PROJECT\JUB00-19-045 - CENTRAL RICHLAND TRANSPORTATION STUDY\CAD\EXHIBIT\COUPLET\OPTION SYMONS8.5X11.T.DWG

MATCH LINE SEE FIGURE NO A-2

MATCH LINE SEE FIGURE NO A-4



Plot Date: 7/1/2020 11:49 AM Plotted By: William Gillen
Date Created: 7/1/2020 \\WKF\FILES\PROJECTS\JUB00-19-045-CENTRAL RICHLAND TRANSPORTATION STUDY\CAD\EXHIBIT\COUPLET\OPTION SYMONS8.5X11T.DWG

MATCH LINE SEE FIGURE NO A-3



EXHIBIT A

CITY OF RICHLAND
DOWNTOWN CONNECTIVITY STUDY
EXTENDED ONE-WAY COUPLET ALTERNATIVE DETAIL