



UPS Delivers

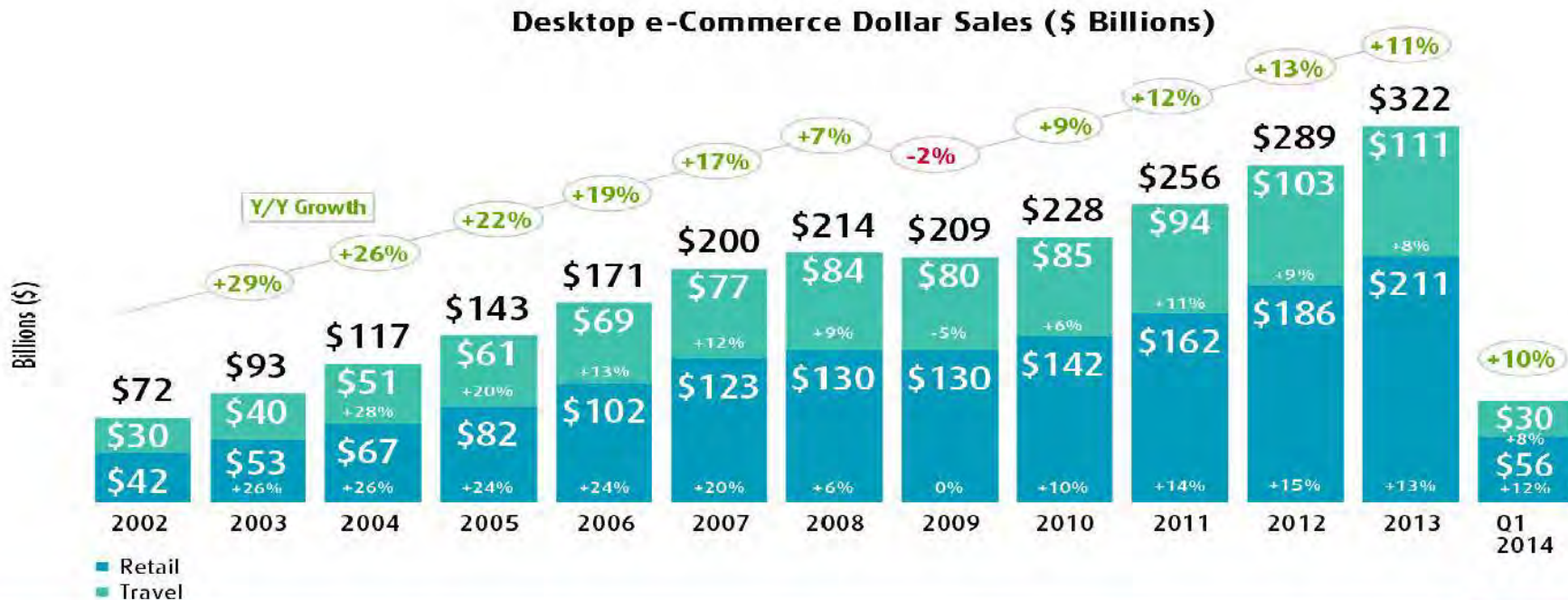
- E-commerce / M-commerce Growth
- Alternate Delivery Locations
 - UPS Access Points
- Consolidated Deliveries
 - Sure Post
- Home Deliveries
 - Telematics
 - ORION



E-Commerce / M-Commerce



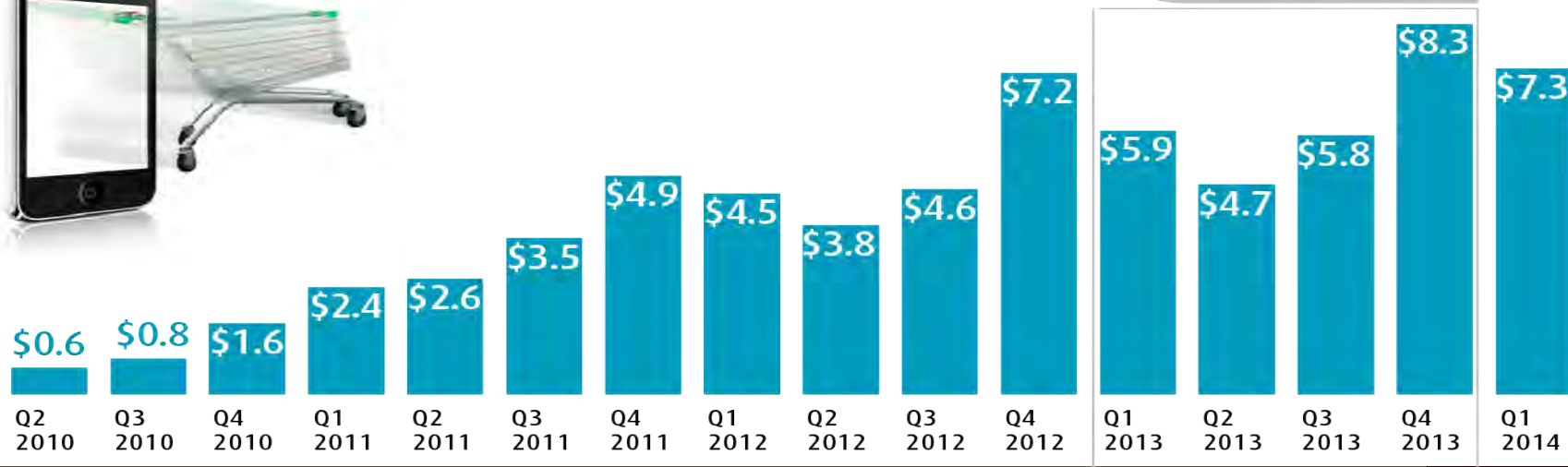
Desktop e-Commerce (retail + travel) reached \$322B n in 2013, up +11% Y/Y overall and +13% Y/Y for retail



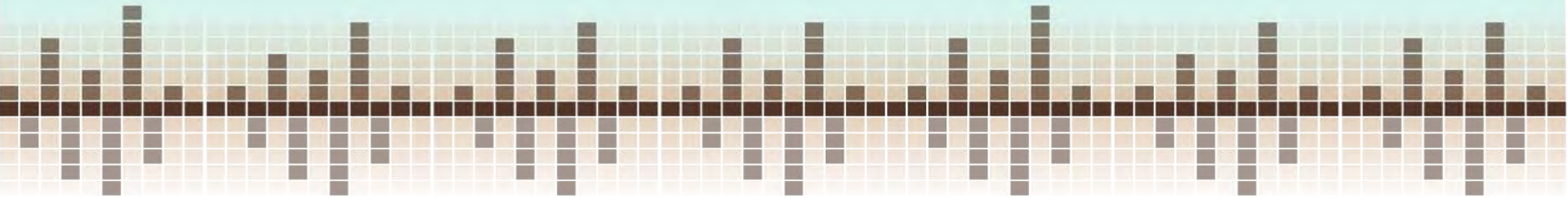
In Q4 2013, m-commerce accounted for 12% of all retail e-commerce for the year, m-commerce nearly hit \$25 billion & grew +22% vs 2012

Percentage of Retail e-Commerce Dollars Spent via Mobile (Smartphone & Tablet)

Source: comScore Custom Mobile Research

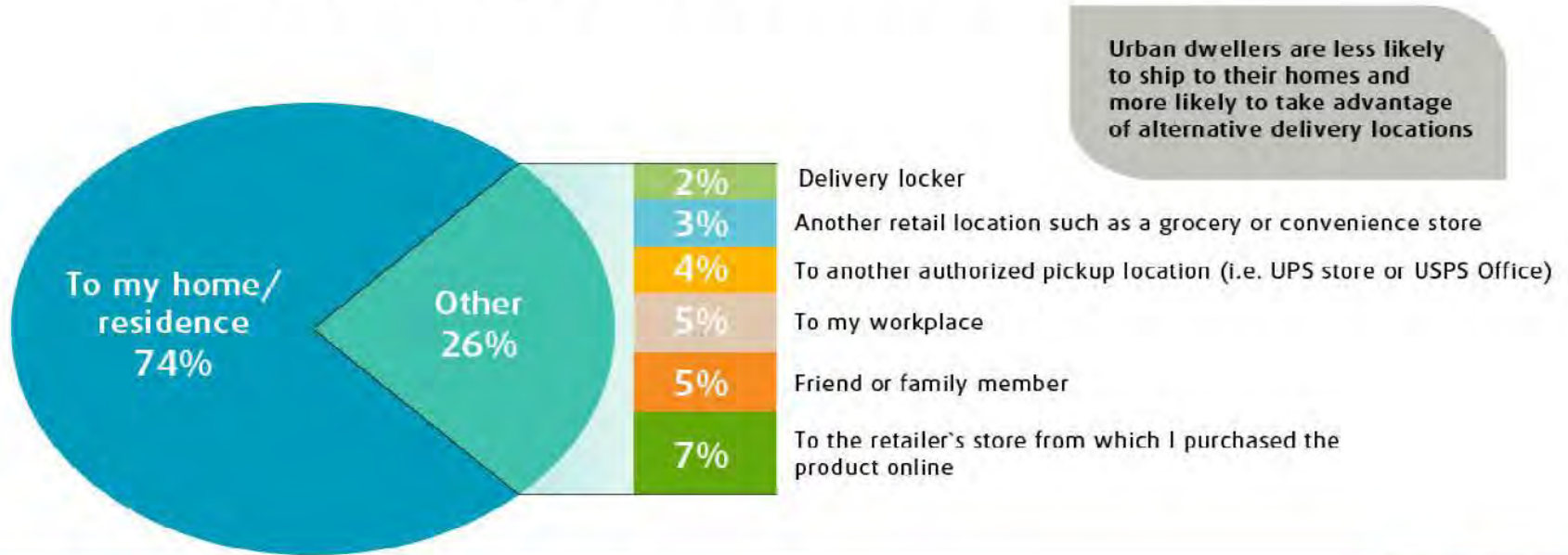


The Delivery Experience / Alternate Delivery Locations



Consumers prefer three in four packages routed to their home

Preference in Delivery Location (Avg. Chip Allocation Out of 100) (n=5,849)

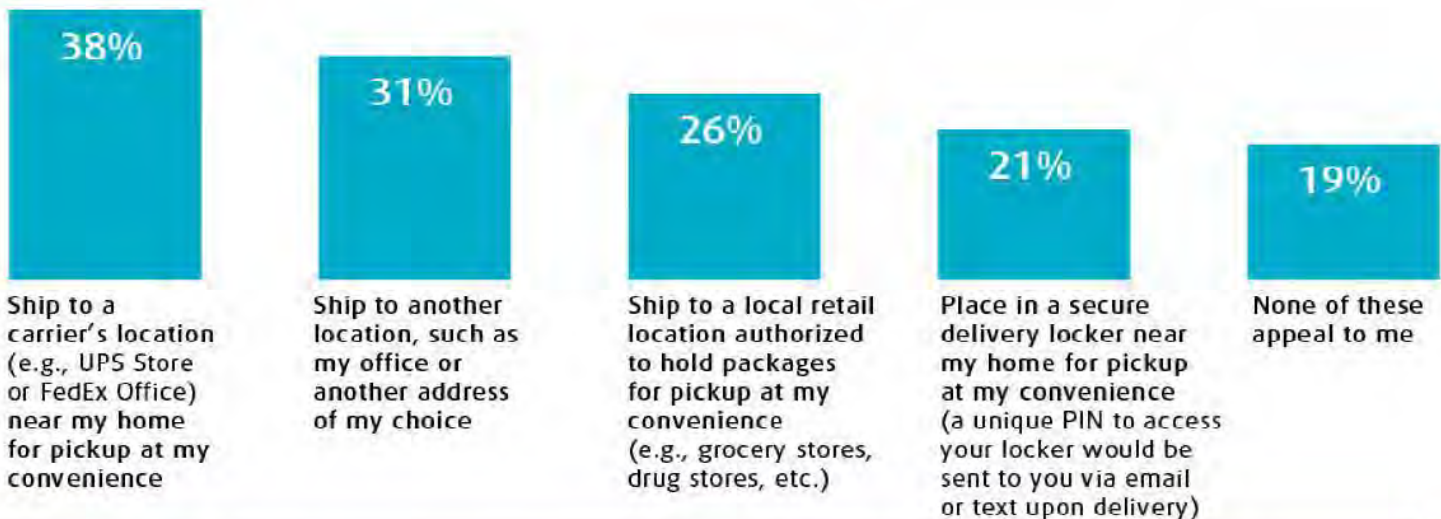


Q8.1 - Which of the following locations do you prefer your online orders be delivered to?



Shoppers embrace alternate delivery locations and rerouting when not at home to sign

Preferred Delivery Service Options When Not Home To Sign for a Package (n=4,060)



HEB12: If you are not at home to sign for a package that requires a signature, what options would you find appealing? Please select all that apply.



It's not that we don't like seeing you, but there are better ways to get your UPS® packages.



UPS My Choice®

Get free delivery alerts to your computer or mobile device, so you can decide when and where to receive your packages.

[ups.com/mychoice](https://www.ups.com/mychoice)



UPS Access Point®

A neighborhood location that offers easy package pick-up or drop-off. Yours may be your favorite coffee shop, drycleaner, pharmacy or other retailer.

[ups.com/accesspoint](https://www.ups.com/accesspoint)

UPS My Choice™

- Visibility on incoming packages
- Options to re-route packages, schedule future delivery, setup a 2 hour delivery window

UPS Access Point™

- Non-delivery packages re-routed to convenient local locations on same day



What are UPS Access Points?

- Local businesses partnered with UPS to receive packages for their immediate area
 - Coffee shops, convenience stores, gas stations, pharmacies, etc...
- Customers can have packages re-routed to these locations via My Choice.
- Non-deliverable packages re-routed to UPS Access Points on same day
- WIN. WIN. WIN.



UPS Access Points - Feedback

Increased Convenience:

- 91% more convenient to three delivery attempts.

Better Consumer Experience:

- 98% of consumers surveyed reported they had a good experience while picking up their package

UPS is removing a barrier to online shopping for consumers living in home delivery challenged areas:

- 60% of consumers said this new process will allow them to order more online.



The Delivery Experience / Consolidated Deliveries



Sure Post

Service offered exclusively to large shippers

UPS delivers to local USPS facility

USPS makes final delivery the next business day





ABC COMPANY
2010 WARSAW
ROSWell GA 30073

SHIP USPS 21093
TO: 500 York Rd
Timonium MD 21093

MD 211 2-01

SURE POST
TRACKING #: 1Z 123 45E YP 1234 5678

USPS DELIVER TO: Return Service Requested
Frank Smith
10 Elm St
Timonium MD 21093

FRIGHT STD
U.S. POSTAGE PAID
UPS
eVS

ZIP - USPS DELIVERY CONFIRMATION eVS



Frank Smith
10 Elm St
Timonium MD 21093

P: BLUE s: RIGHT I: 20

60B-1118

1Z123X56031234 5679

DEVICE# 123 STATION# 33 Nov 08 10:38:14 2000
US 00001 HIP 1.148 INT4420

Real time final mile delivery decisions



Options to consolidate delivery with Sure Post

- UPS will consolidate home deliveries for Ground and Sure Post packages.
- If multiple Sure Post packages going to same address, UPS will consolidate into single home delivery.



The Delivery Experience / Home Deliveries



Basic Facts

- Big savings come from attention to detail
 - 1 mile is worth \$50M*
 - 1 minute is worth \$14.6M*
 - 1 minute of idle time is worth \$515K**

Note: Figures are per driver per day across the US for a year

* Small Package P/U and Delivery drivers

** Small Package P/U and Delivery, Freight and Tractor / Trailer drivers





DIAD I
1990



DIAD II
1993



DIAD III
1999



DIAD IV
2004



DIAD V
2011

UPS has been utilizing Big Data
for 25 years



Operations Process Vision

Utilize UPS' rich data infrastructure to:

- Analyze current status
- Forecast future demand patterns
- Robust tools plan from the forecast
- Optimizations make plans efficient
- Analysis tools close the loop

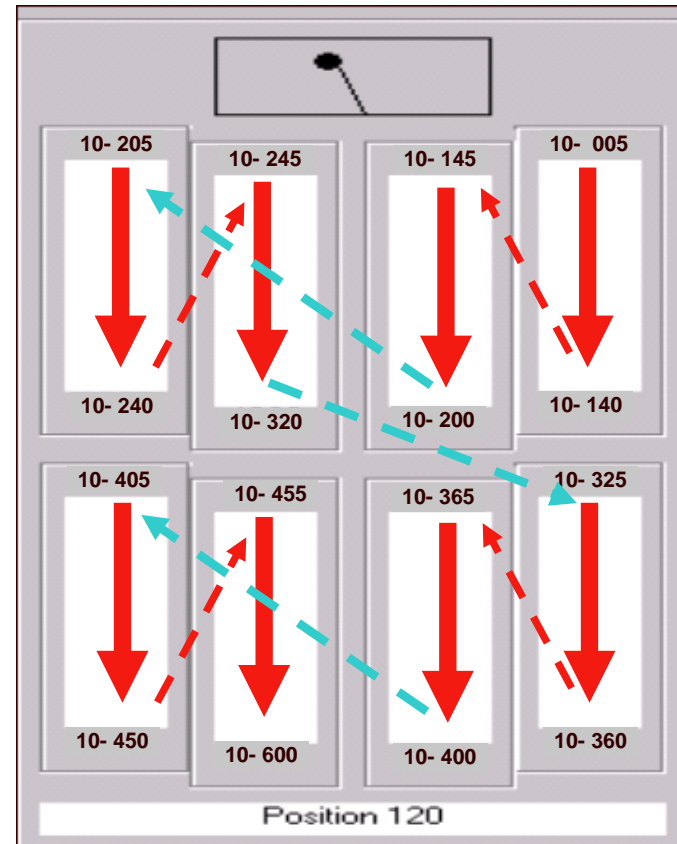
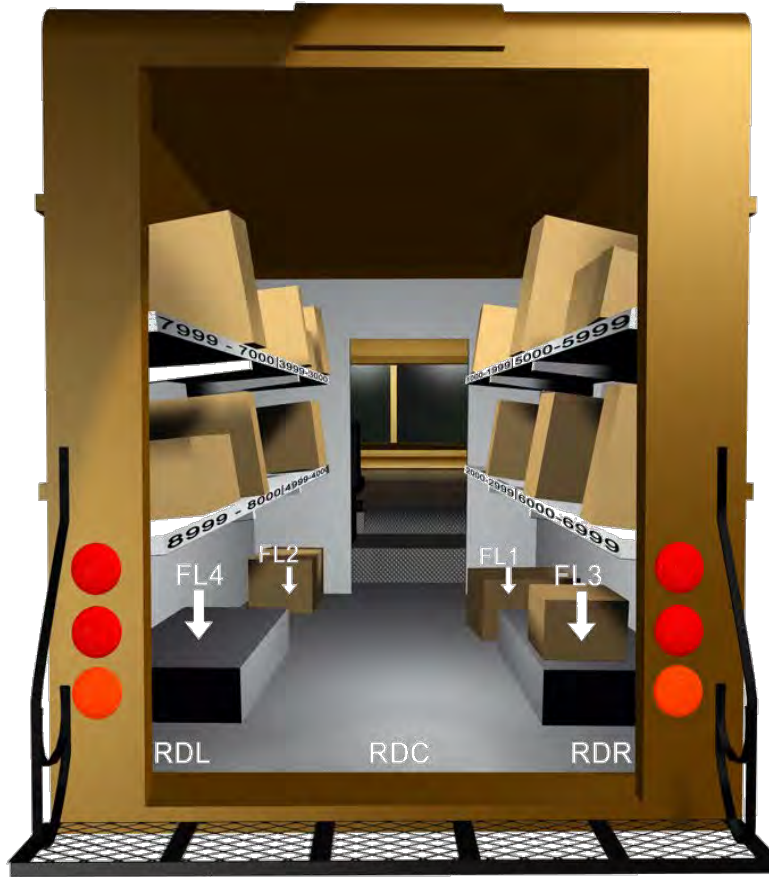


Simplification through Package Level Detail (PLD)

ABC Company 2775 Chestnut Run Road Suite 242 York Pa 17402 - 2558		
P:RED	S:BROWN	I:A14
R120-1118		X <input type="checkbox"/>
1Z123X560312345679		1030
DEVICE# 123 STATION# 33 Nov 08 10:38:14 2000 US 00001 HIP 1.14a INT4420		

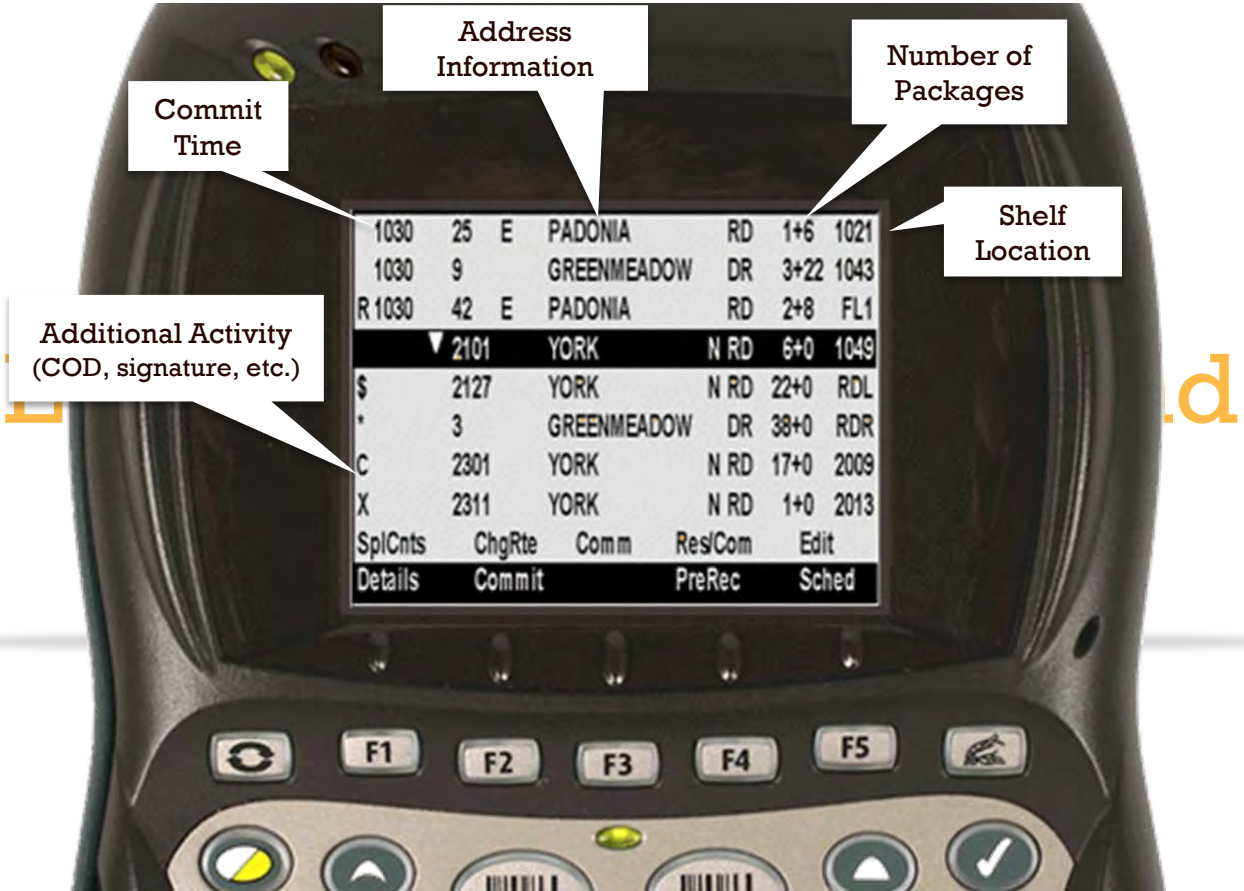
UPS Smart Labels act as a “trip ticket” to carry packages through the network and the final mile





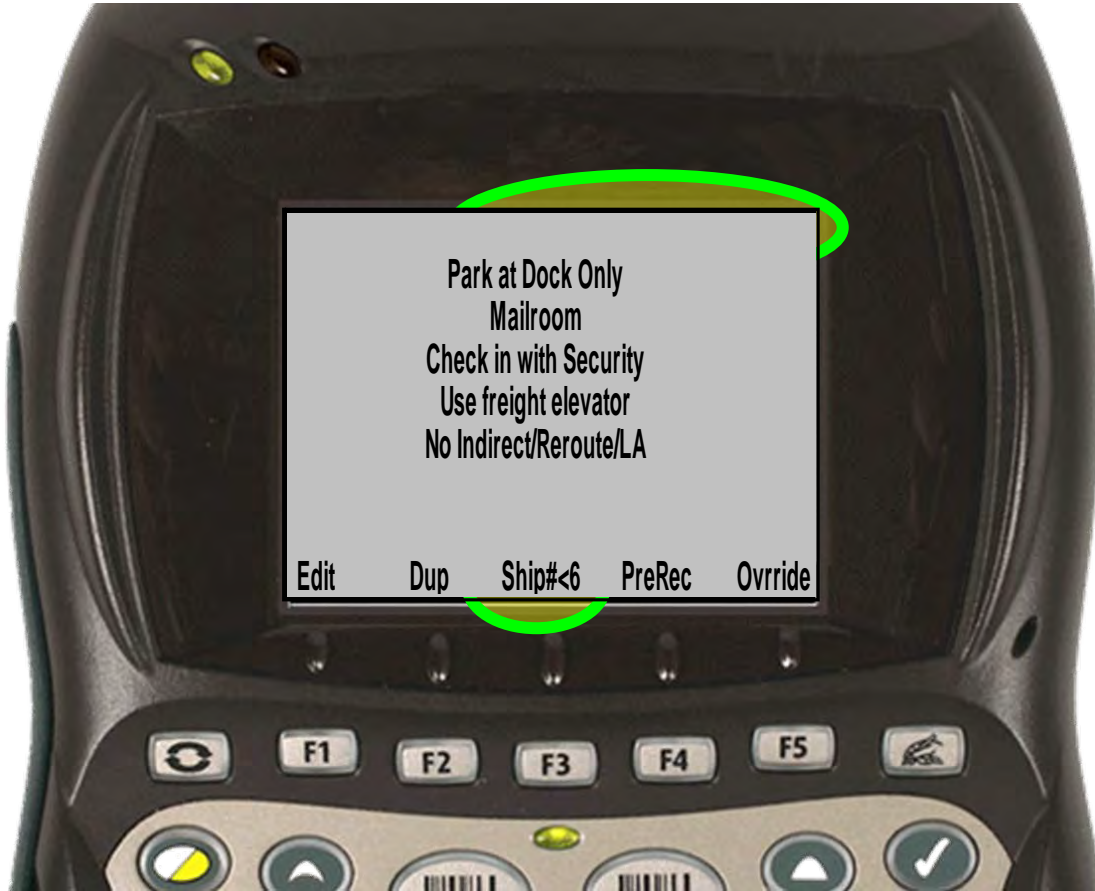
To reduce driver time and miles, packages are loaded in a general order of delivery





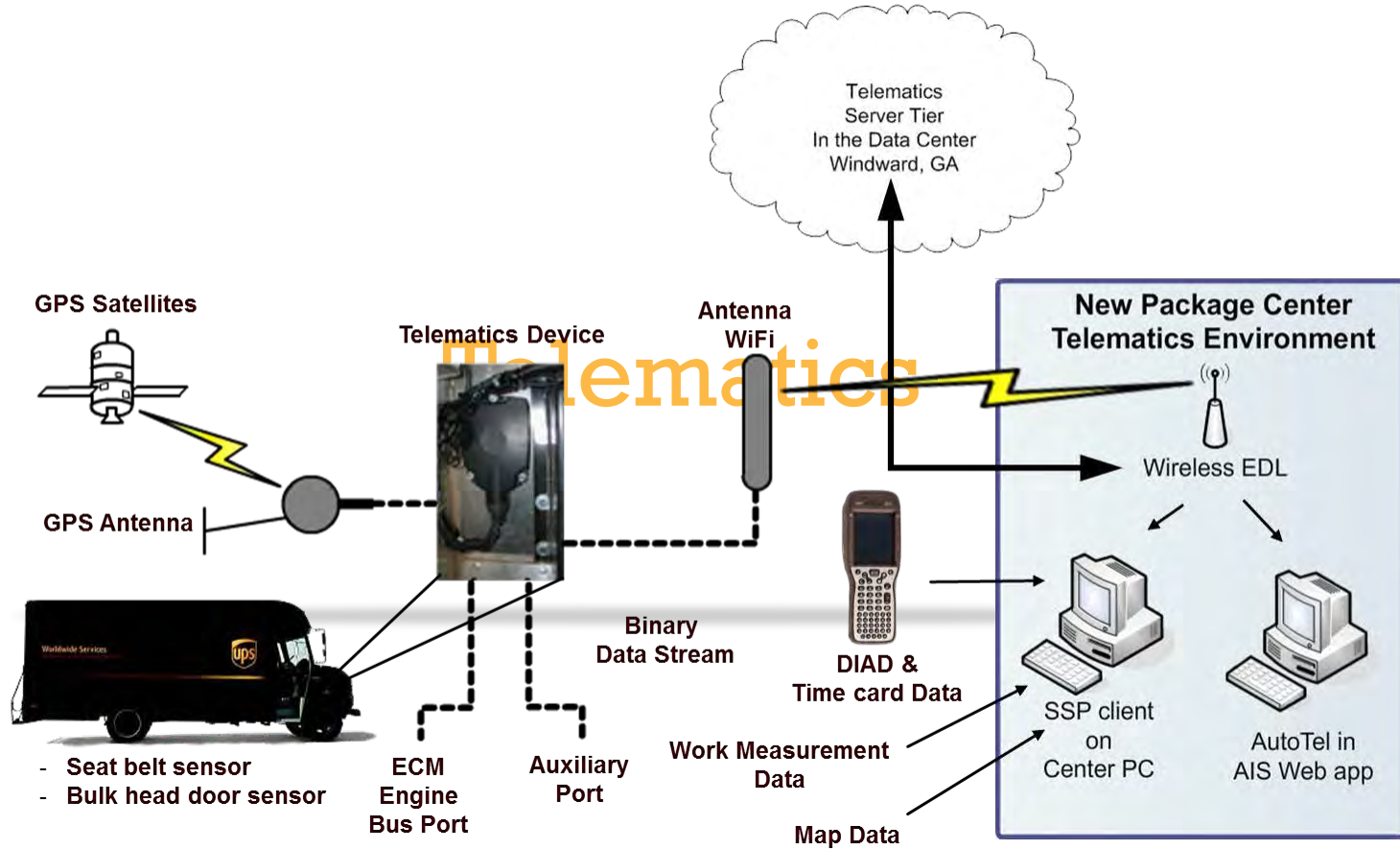
Changing the DIAD from an **Acquisition** device to a driver **Assistant** for making better decisions





**Keeping our promise to the customer
Enabling more services**

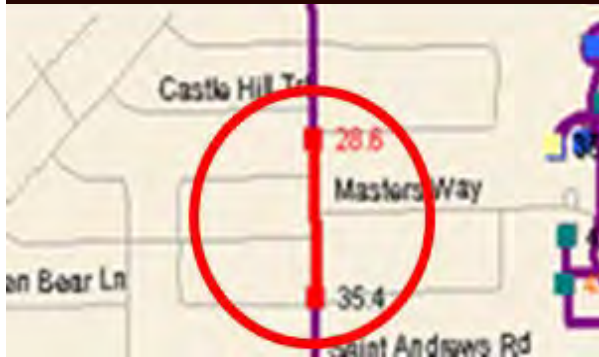




Telematics closes the loop by providing detailed analysis



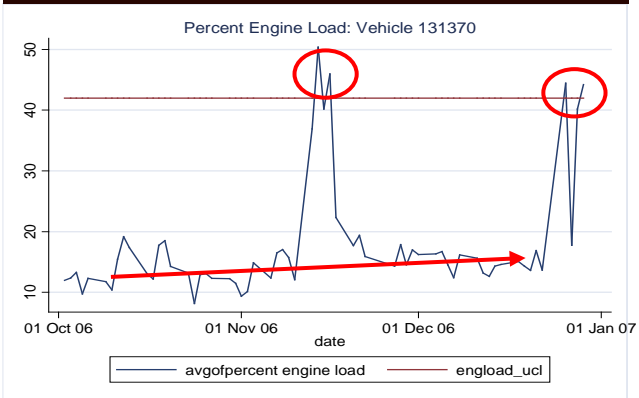
Speed



Seat belt off in travel



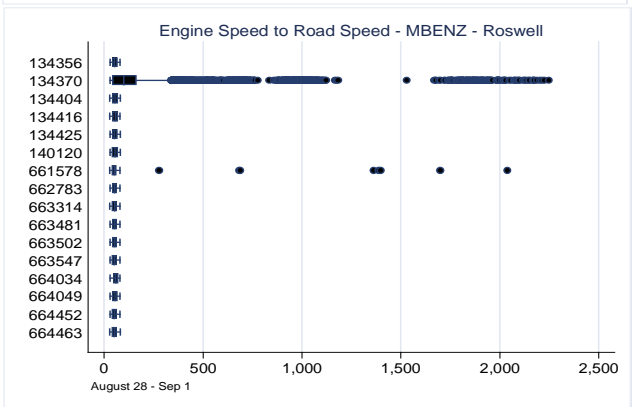
Predictive Failure Analysis



Delivery while idling



Route overlap



Telematics closes the loop by providing detailed analysis



Driver Telematics Review

5 MHN Overallowed Delivery Stops

MHN	Stop #	Address	Type	Del Pkgs	Overallowed
1	16	222 E MAIN ST COLLEGEVILLE PA 19426 GAME STOP	SIG OBTAINED	14	0:08:33
2	31	141 MARKET ST COLLEGEVILLE PA 19426 2	SIG OBTAINED	1	0:08:22
3	45	220 PLAZA DR COLLEGEVILLE PA 19426 TOWNE BOOK CEN	SIG OBTAINED	27	0:06:37
4	47	1201 S COLLEGEVILLE RD COLLEGEVILLE PA 19426 QUES	SIG OBTAINED	3	0:05:16
5	54	599 ARCOLA RD COLLEGEVILLE PA 19426 108 MAIN LIN	SIG OBTAINED	2	0:04:27

5 MHN Overallowed Pick-Up Stops

MHN	Stop #	Address	Type	PU Pkgs	Over
1	57	1250 S COLLEGEVILLE RD 19426	PICKUP	0	0:03:08
2	66	141 MARKET ST 19426 4	PICKUP	4	0:03:04
3	80	220 PLAZA DR 19426	PICKUP	10	0:03:00
4	81	500 ARCOLA RD 19426	PICKUP	0	0:01:56
5	79	400 FRONT ST 19426	PICKUP	14	0:01:03

Selection (Bulk Head Door)

86 Total Stops Selected Through Bulk Head Door

52 Total Single Package Stops

35 Single Package Stops over **18 secs**

0:10:30 Selection Time (Planned)

0:51:30 Selection Time (Actual)

0:41:00 Single Package Stop Excess Selection Time

34 Total Multiple Package Stops

28 Multiple Package Stops with Excess Time

0:36:09 Hrs (Planned)

1:02:15 Hrs (Actual)

0:26:06 Multiple Package Stop Excess Selection Time

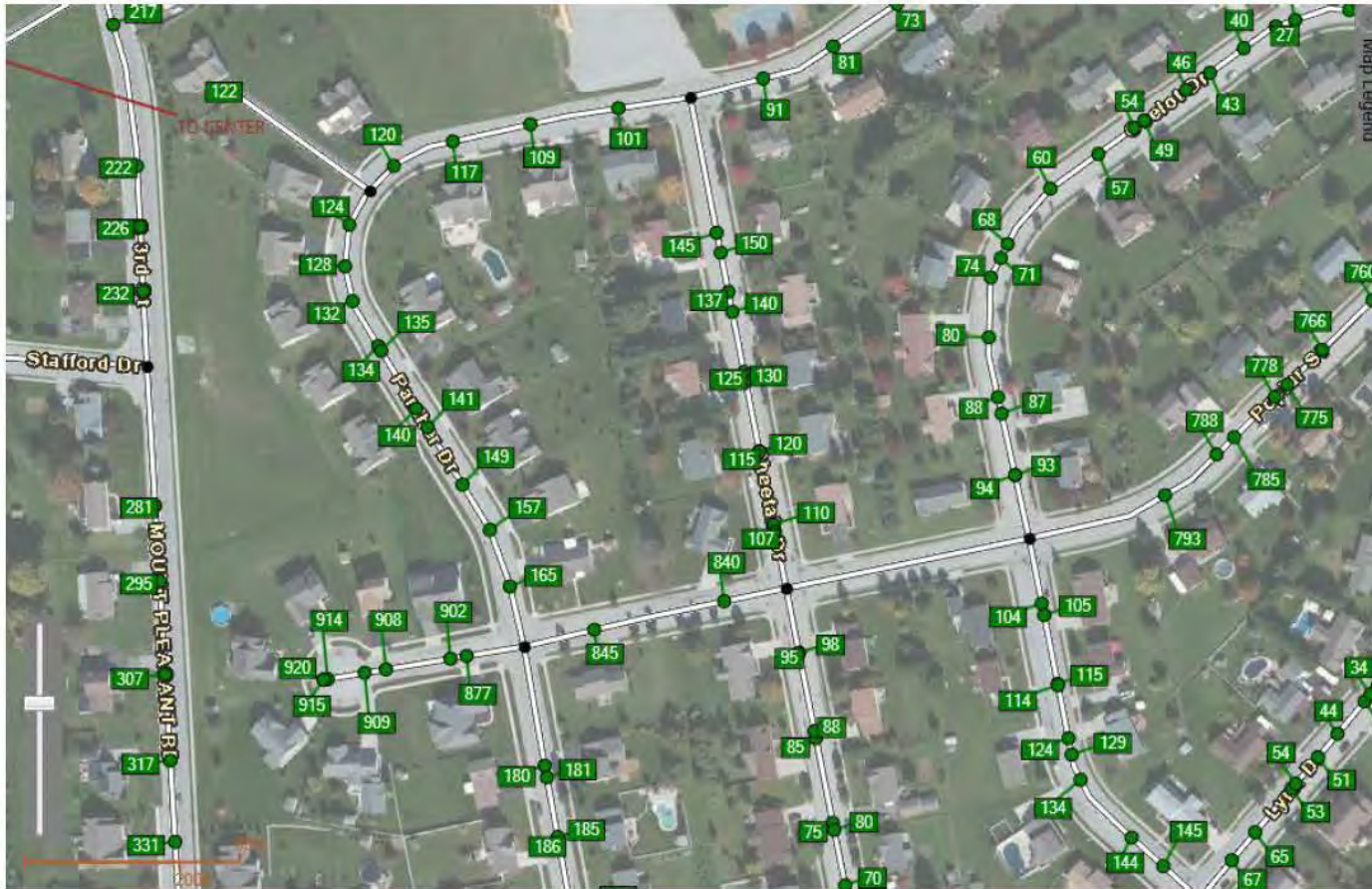
1:07:06 Total Excess Selection Time





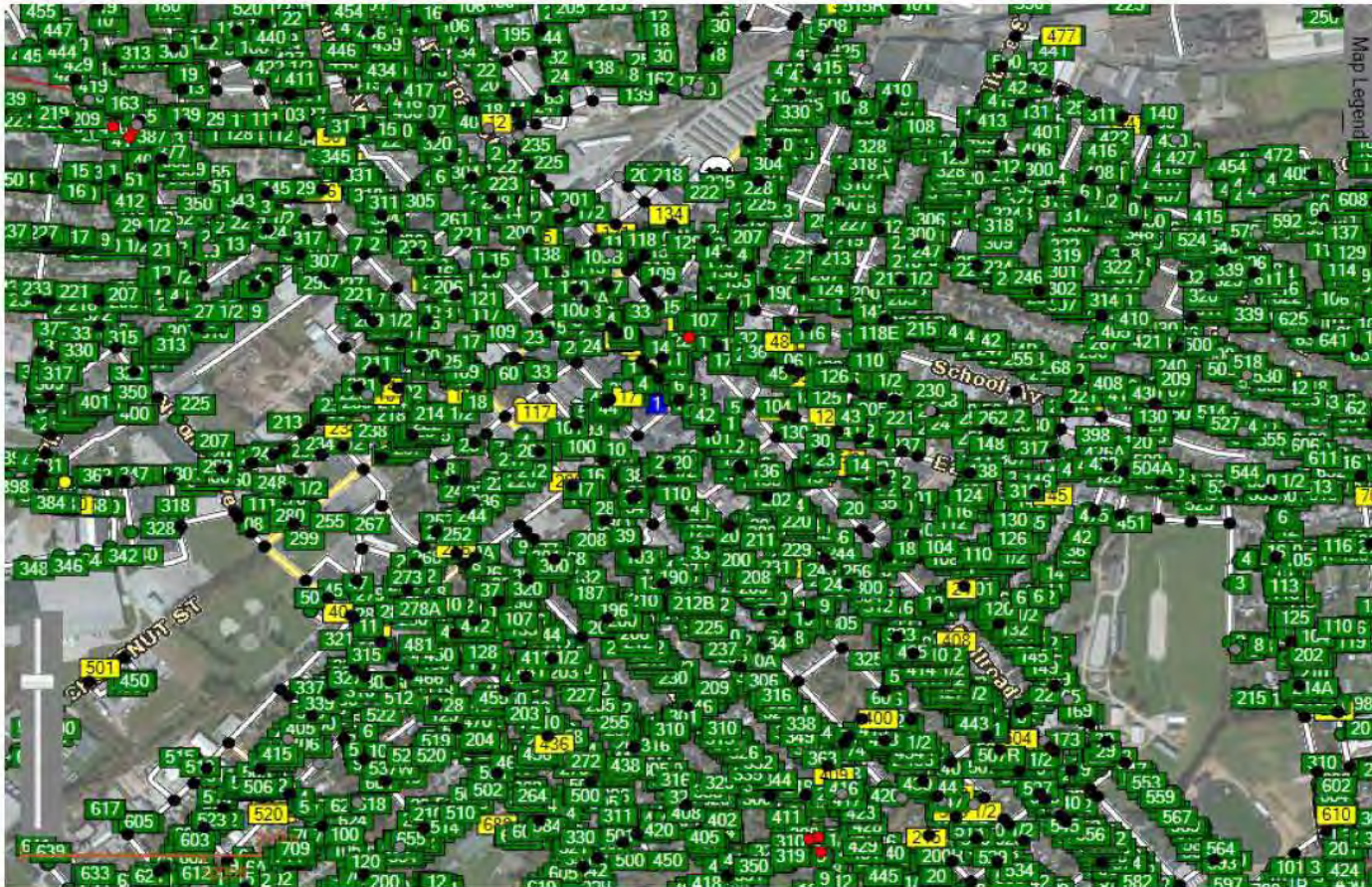
Proprietary Geographic Information





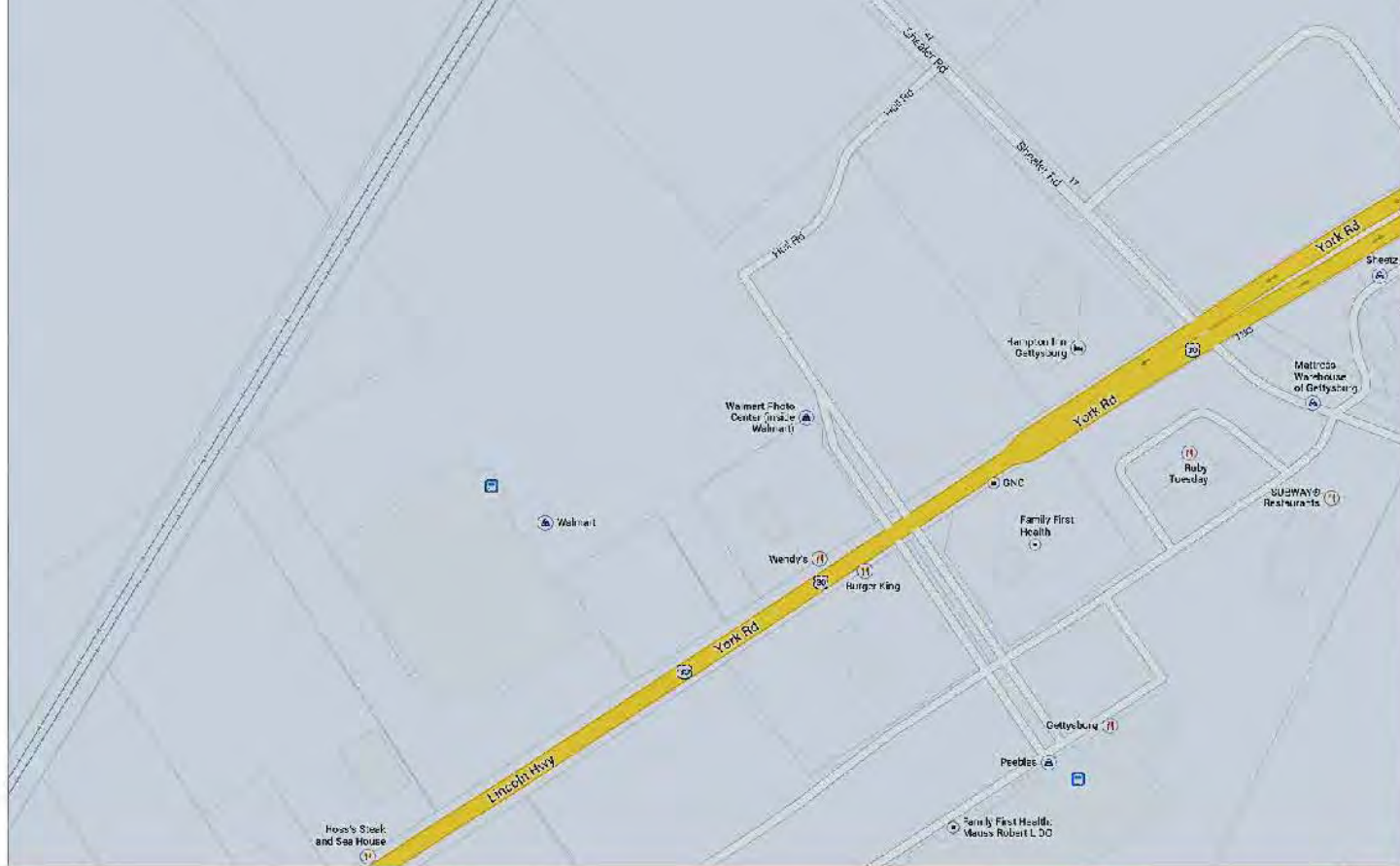
Proprietary Geographic Information





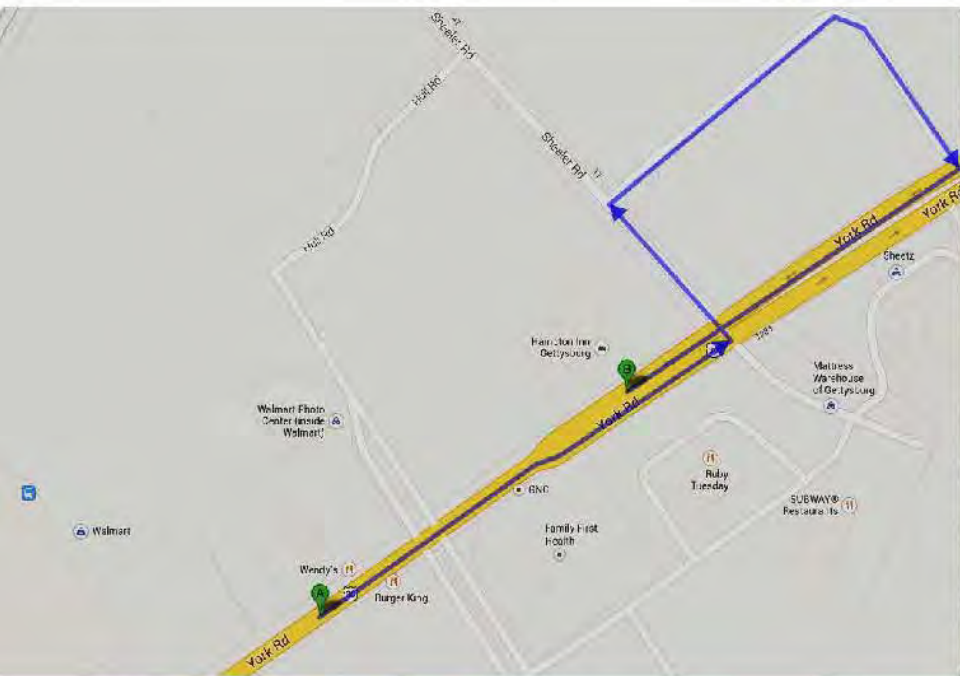
250 Million Global Data Points





Enriched map data adds to UPS' robust data infrastructure



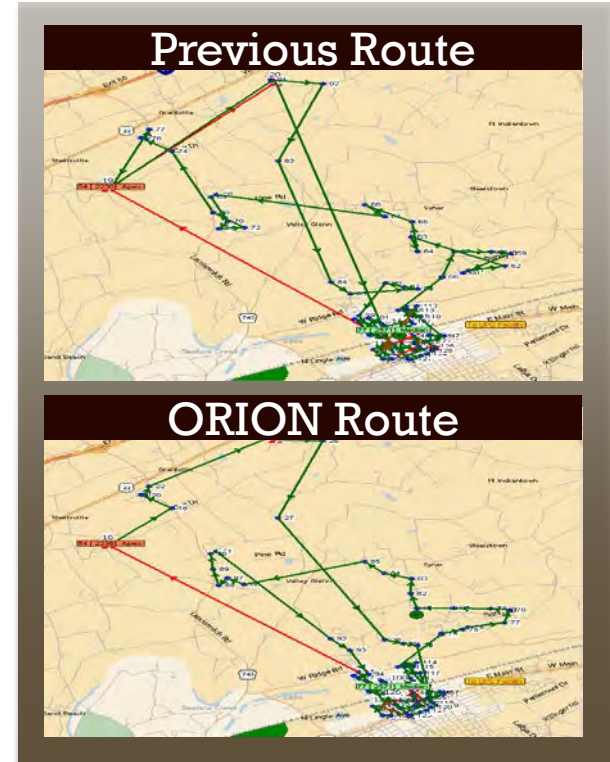


Enriched map data adds to UPS' robust data infrastructure

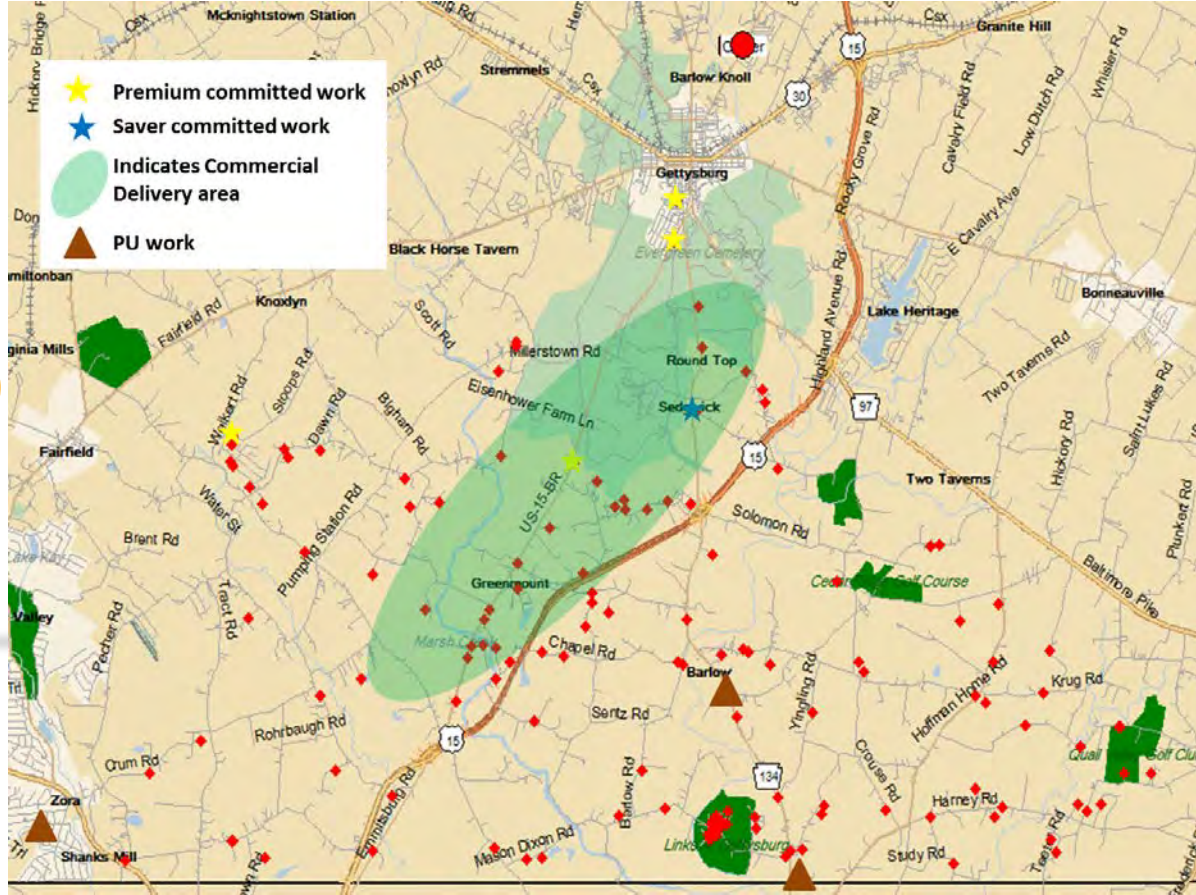


ORION: On-Road Integrated Optimization & Navigation

- Optimizes a driver's route using:
 - Advanced mathematical models
 - Data from planning systems
 - Customized map data
- Accounts for business rules, customer needs, and service commitments



D



What is the most cost effective way to serve these customers?





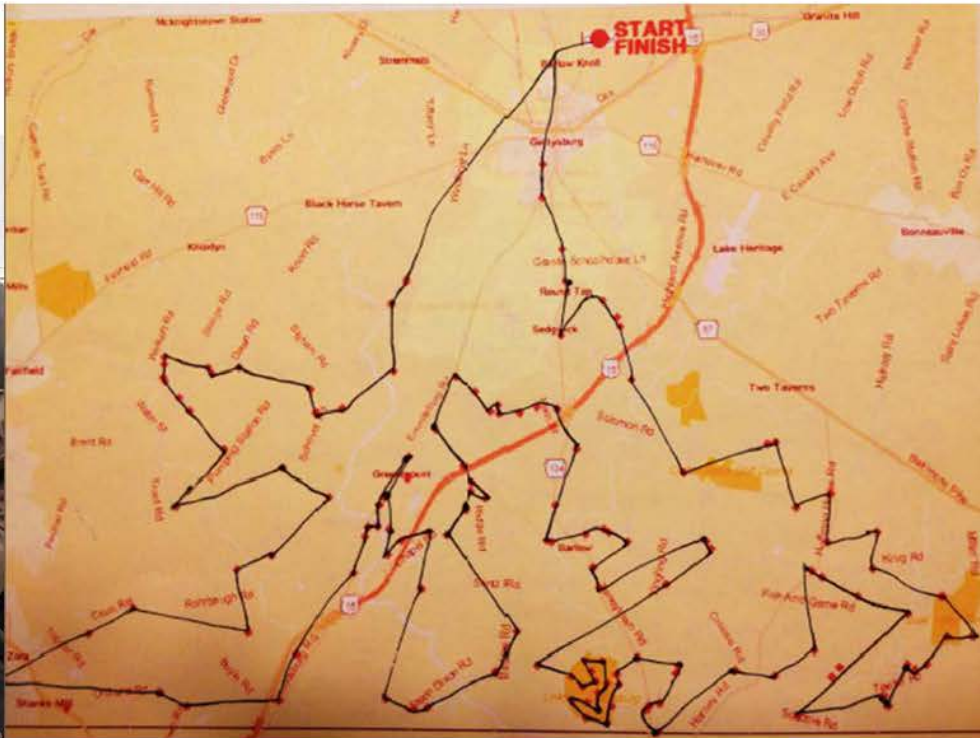
David Pogue @Pogue

23 Apr

Shooting for NOVA: we're examining the UPS computer model that tries to calculate maximum speed, maximum addresses...

pic.twitter.com/a9MDq12XLU

Hide photo Reply Retweet Favorite More



24 RETWEETS

18 FAVORITES



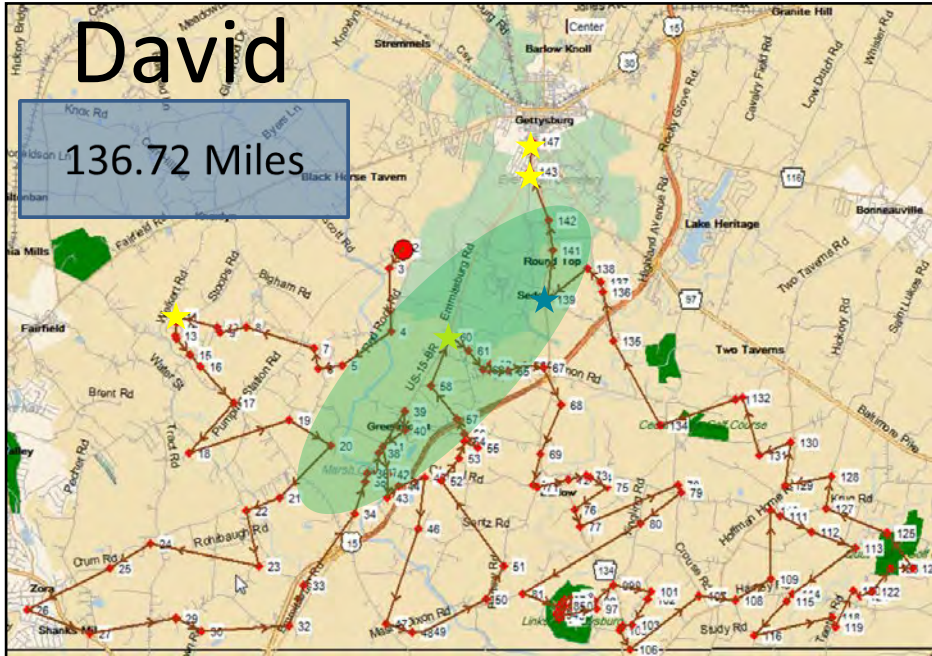
The ORION Test on NOVA





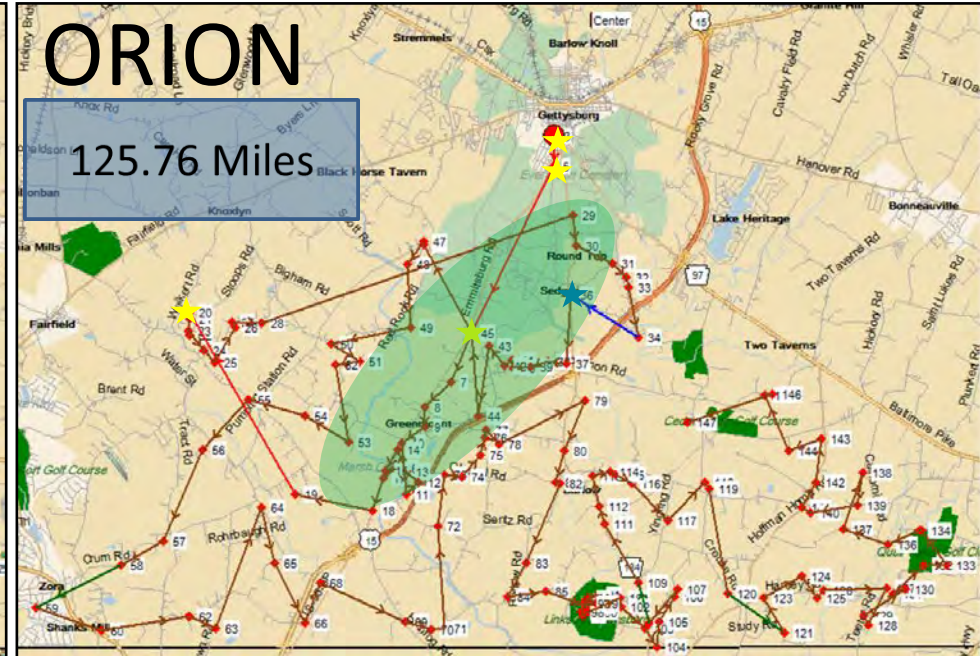
David

136.72 Miles



ORION

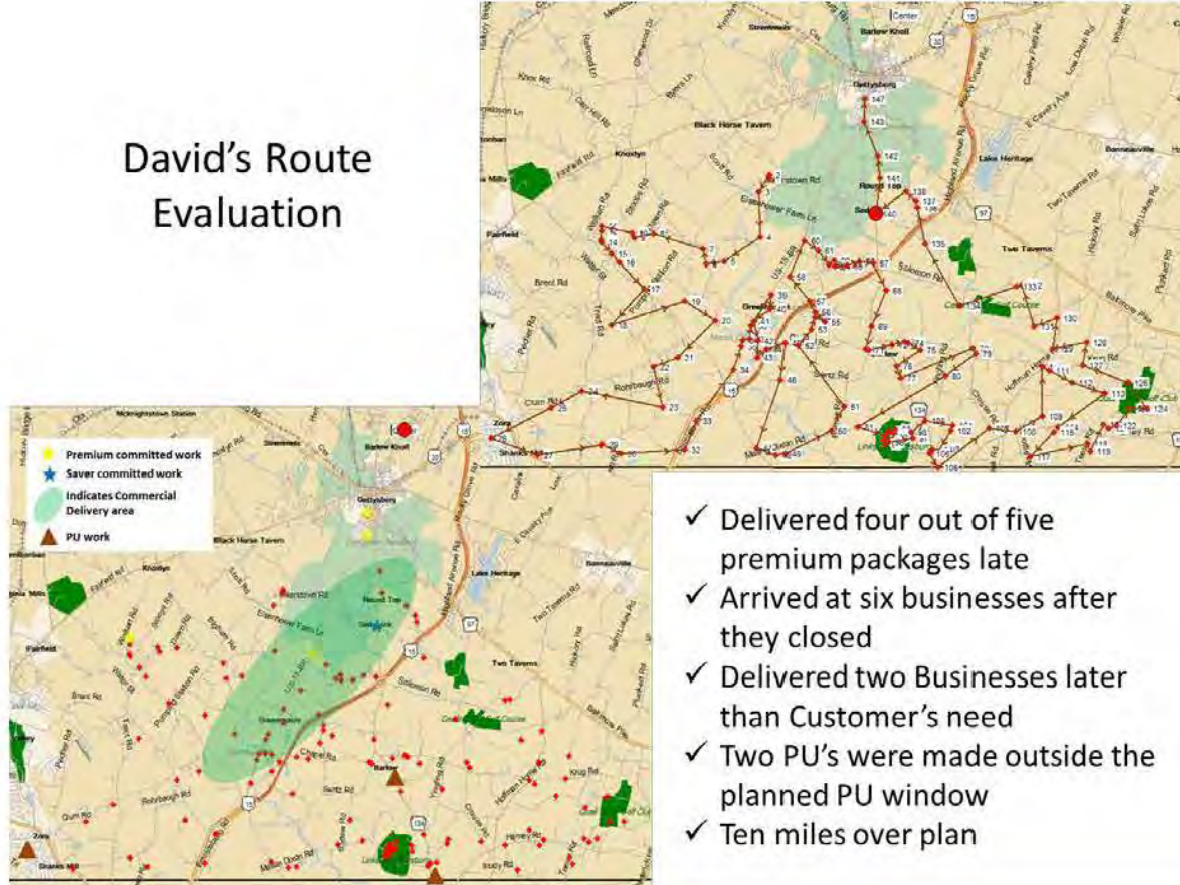
125.76 Miles



Subtle differences can mean large savings



David's Route Evaluation



- ✓ Delivered four out of five premium packages late
- ✓ Arrived at six businesses after they closed
- ✓ Delivered two Businesses later than Customer's need
- ✓ Two PU's were made outside the planned PU window
- ✓ Ten miles over plan

ORION reduces cost while satisfying all customer and business needs



Basic Facts

- Big savings come from attention to detail
 - 1 mile is worth \$50M^{*}
 - 1 minute is worth \$14.6M^{*}
 - 1 minute of idle time is worth \$515K^{**}
- ORION to be fully deployed by 2017

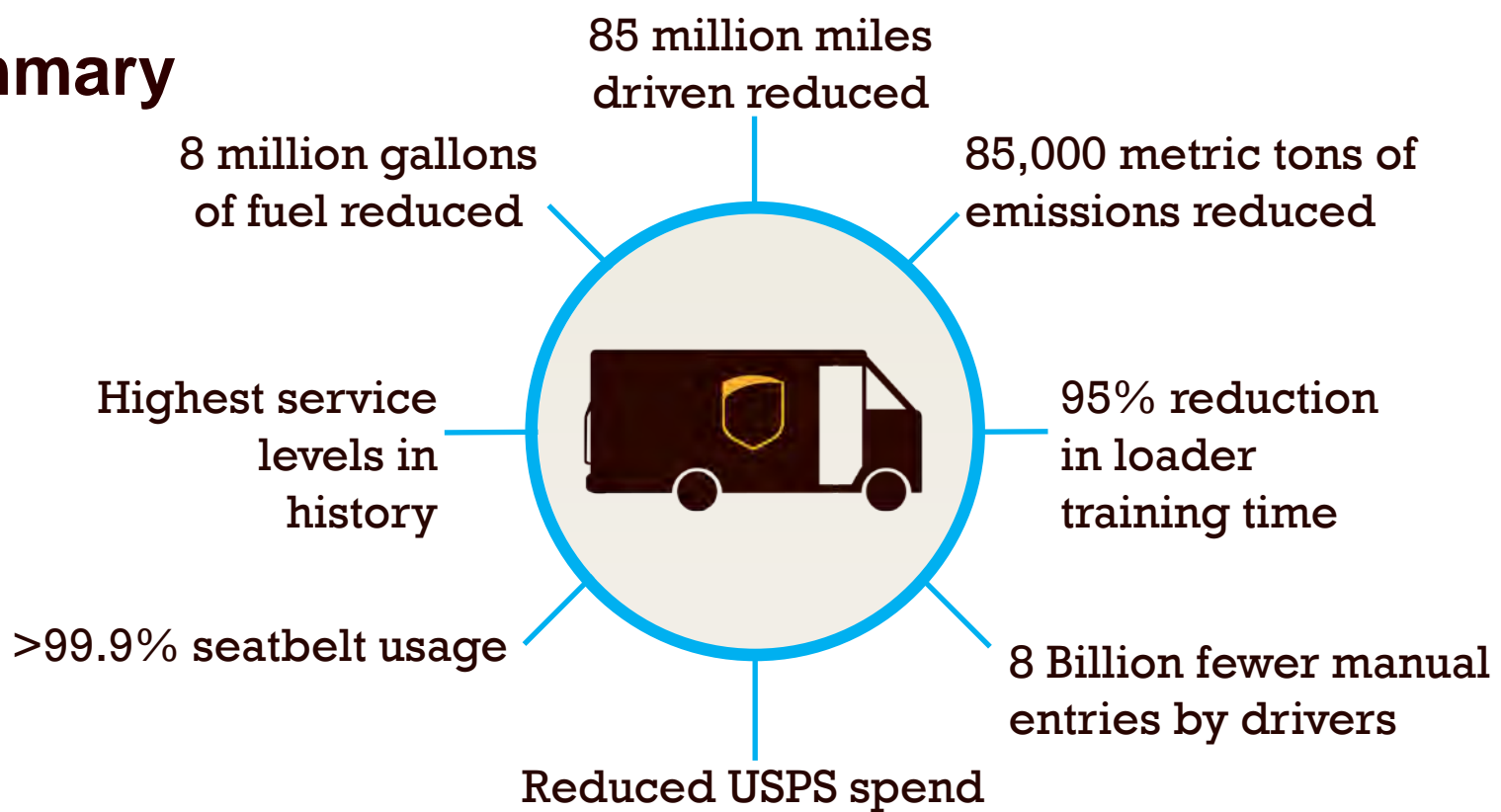
Note: Figures are per driver per day across the US for a year

* Small Package P/U and Delivery drivers

** Small Package P/U and Delivery, Freight and Tractor / Trailer drivers



Summary



Real world results

E + I < E



Thank You



Questions?

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U.S. Department of Transportation
Federal Highway Administration

**Office of Freight Management
and Operations**

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202-366-9210

Urban Freight Movement

Presented to

Downtown Delivery Symposium

Delaware Valley Regional Planning Commission (DVRPC)

July 15, 2015



Presentation Focus

- Urban Freight Research Project
- Off-Hours Delivery program



Background

Urban Freight Research Project

Federal Highway Administration (FHWA), Office of Freight Management and Operations in collaboration with its partners identified a need to research impacts of **context-sensitive solutions** (CSS), such as “Complete Streets” and “Road Diets”, on **freight** transportation and delivery in **urban areas**; and to identify **innovative strategies** to overcome **first- and last-mile** challenges while considering all modes and users.



Purpose and Goals

Urban Freight Research Project

- Engage public and private partners regarding the enhancement of urban freight movement
- Discuss and prioritize key topics for further research
- Share noteworthy practices and lessons learned in urban freight movement and delivery
- Identify tools, considerations, and strategies for practitioners



Partners

Urban Freight Research Project

This project is being conducted in coordination with:

- State, regional, local transportation agencies
- Federal agencies including U.S. DOT, EPA, and DOE
- Port authorities
- Private carriers and operators
- Industry associations
- European Commission (EC)

Activities in coordination with the European Commission (EC) include:

- Sharing related studies conducted by the EC regarding urban freight transport
- Inviting EC representative to serve as panelist in U.S. urban freight research project and product delivery
- Participating in final U.S.-EC peer exchange to share research findings

Status

Urban Freight Research Project

1

- Conduct literature review
- Identify preliminary topics

2

- Host roundtable event
- Refine list of topics

3

- Develop and implement action plan
- Produce white papers on selected topics

4

- Design and conduct joint US/EU peer exchange



Status (Cont.)

White Papers

- Topics
 - Operations, Logistics, and Technology
 - Coordination and Communication
 - Design Guidelines and Safety (ITE Walkable Urban Thoroughfares Manual)
- Approach
 - Build off existing knowledge presented in literature review report and at the roundtable event
 - Conduct interviews and review case studies
- Status
 - Kick-off meeting for Operations, Logistics paper and Technology in July/August
 - Kick-off meeting for Coordination and Communication paper in August/September
 - Work starting shortly on the update of the Walkable Urban Thoroughfares Manual.
- Structure
 - Existing conditions
 - Noteworthy practices
 - Innovations
 - Recommendations
 - Summary

Status (Cont.)

Noteworthy Practices

- Major action item identified during the Urban Freight Roundtable was to identify, document, and share noteworthy practices.
 - First round of noteworthy practices will be developed based on practices identified during the roundtable
 - Second round of practices will be identified as a part of the white paper development
 - All practices will be posted on FHWA's website



Noteworthy Practices: First Round

Noteworthy Practice	Location	Target Date for Publication
Commercial Loading Zone Program	District of Columbia	75% complete, Mid-summer
Truck Side Guard Ordinance	Boston, Massachusetts	Late Summer
Buffer Zones	Chicago, Illinois	Late Summer
Audible Turning Warnings	Montgomery County, Maryland	Late Fall
Roundabout Testing	Oregon	Late Fall
Regional Coordination for Last-mile Improvements	New York and New Jersey	Late Fall
Open Data Portal	New York and New Jersey	Late Fall
Truck Parking Availability Study	Minnesota	Late Fall



Examples of Noteworthy Practices

Boston, MA Truck Side Guard Ordinance

- Boston is the first U.S. city to require these enhanced safety measures designed to prevent fatalities and further reduce the risks of a collision with pedestrians and cyclists.
- A city ordinance mandates all large city-contracted vehicles be equipped with side guards, convex mirrors, and blind-spot awareness decals.



Examples of Noteworthy Practices (cont.)

Chicago Buffer Zones

- Chicago DOT (CDOT) uses buffer zones when implementing Complete Streets concepts to ensure the safe operation and loading/unloading of trucks.
- Buffers between narrowed travel lanes and bike lanes ensure trucks can operate without conflict with cyclists, while other treatments help avoid conflict between drivers and cyclist during unloading.



Volunteer Opportunities

Help identify:

- **Synergies:** What national, regional, local, or private initiatives are planned or underway?
- **Noteworthy practices:** What lessons learned can your agency share? What noteworthy practices have you heard about at other conferences?

Serve on a task group:

- White papers
- Research statements, studies, and papers
- Conferences and webinars
- Workshops and training
- Project delivery



FHWA Off-Hours Delivery Program

The FHWA Office of Freight Management and Operations in partnership with the European Commission are interested in researching and demonstrating the efficacy of implementing the Off-Hours program.

- The main objective of the program is to improve freight flows, and have positive impacts on air quality, environmental justice, sustainability and livability.
- Program locations include sections or specific locations in large metropolitan areas, small to medium size urban areas, freight facilities, private freight operations and/or supply chains.



Pilot Off-Hours Freight Delivery Programs

- District Department of Transportation (DDOT)
 - DDOT's pilot focus on improving the management of curbside loading zones in the city by incentivizing businesses to shift to off-hour deliveries
- Florida Department of Transportation
 - Florida's pilot project is between Florida DOT and the Orlando Health Campus to study the costs and benefits of moving freight deliveries currently occurring during peak traffic time on the Orlando Health campus to the off-hours of the day.



Recommended Resources

- **National Cooperative Freight Research Program(NCFRP) Report 33** - Improving Freight System Performance in Metropolitan Areas: A Planning Guide
- **FHWA Freight and Land Use Handbook** - Publication number FHWA-HOP-12-006
- **FHWA Office of Freight Management and Operations website** - http://ops.fhwa.dot.gov/freight/resources/frt_solutions/index.htm#urban



**For more information
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**DOWNTOWN
DELIVERY**
Symposium

Improving Freight System Performance in Metropolitan Areas - NCFRP Report 33

Jeffrey Wojtowicz
Johanna Amaya

July 15, 2015

Improving Freight System Performance in Metropolitan Areas NCFRP Report 33

Rensselaer Polytechnic Institute

CDM Smith

New York City Department of Transportation

HDR, Inc.

University of Westminster



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- ❖ Funded by the National Cooperative Freight Research Program
- ❖ The team wants to thank the following individuals and groups:
 - ❖ Project Manager – Bill Rogers
 - ❖ NCFRP 38 Project Panel
 - ❖ Public and private sector participants of the project workshop
 - ❖ Capital District Transportation Committee (CDTC)
 - ❖ Multiple Metropolitan Planning Organizations, State Departments of Transportation, private companies, and individuals that contributed to the cases studies discussed in the Planning Guide.

Additional Support

- ❖ Volvo Research and Educational Foundations Center of Excellence for Sustainable Urban Freight Systems (VREF CoE-SUFS)
- ❖ To jumpstart an integrative process, involving cities, private sector, and researchers to develop new freight systems paradigms that:
 - ❖ Are sustainable
 - ❖ Increase quality of life
 - ❖ Foster economic competitiveness and efficiency
 - ❖ Enhance environmental justice
- ❖ To maximize the economic benefits of production and consumption of freight, and minimize the negative externalities produced by freight traffic

Outline

- ❖ Overview Urban Freight Systems
- ❖ Process
- ❖ Project Products
 - ❖ Planning Guide
 - ❖ Initiative Selector
 - ❖ Freight Trip Generation Software
- ❖ Closing Remarks



Overview of Urban Freight Systems



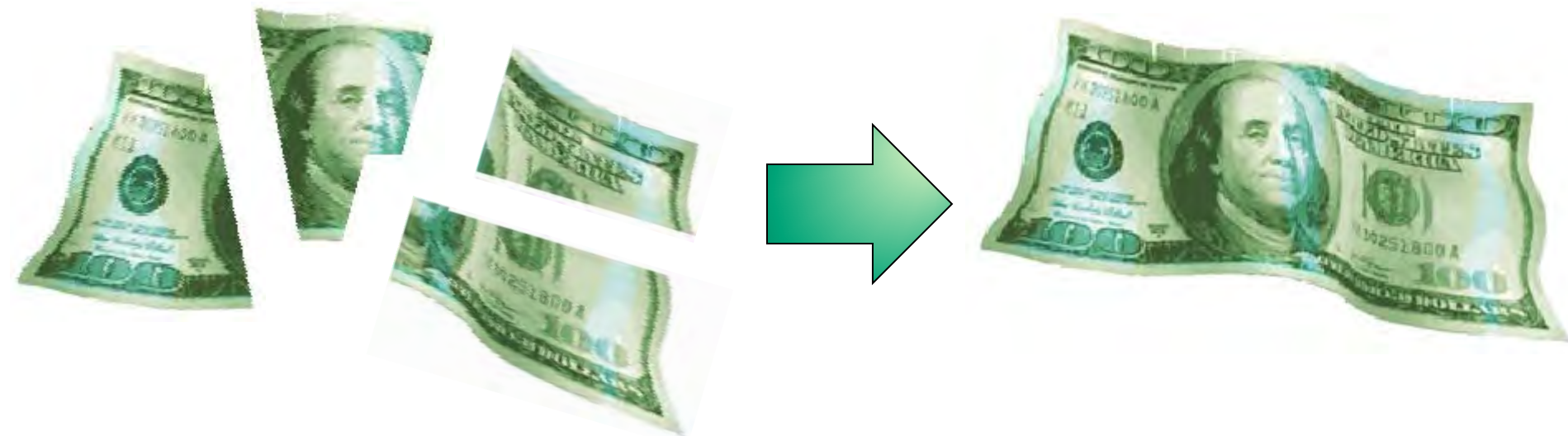
Congestion problems are not new...



37th Street and 7th Avenue, New York City, 1945

Collaboration is key to our approach...

- ❖ No single player could solve all freight issues by itself
 - ❖ Public sector → Regulates, manages infrastructure
 - ❖ Private sector → Operates the system
 - ❖ Academia → Conducts research to find solutions
 - ❖ Communities → Enjoy freight benefits, suffer the impacts
- ❖ All players control a different piece, no one benefits from the status quo:



Why do we need this guide?

❖ The Good:

- ❖ Freight is the physical expression of the economy, **impeding freight flows = impeding the economy**
- ❖ Between 5-10% of GDP is related to freight / logistics

❖ The Bad:

- ❖ Freight traffic is a major consumer of resources and a major producer of externalities: pollution, noise, accidents, etc.

❖ The Ugly:

- ❖ **Freight is good, freight traffic creates problems**
- ❖ There are no easy solutions, no Magic Bullets
→ Multi-prong approaches are needed...
- ❖ The system is complex and not well understood
- ❖ Solutions are complex and involve multiple stakeholders

Process



Key Activities

- ❖ Compilation of programs, initiatives and policies regulating urban freight in metropolitan areas
- ❖ Critical analysis of each initiative and solution offered to find advantages and disadvantages
- ❖ Stakeholder Engagement



Project Products



1. Planning Guide



Planning Guide: Versions

❖ Print ready version:

http://onlinepubs.trb.org/onlinepubs/ncfrp/ncfrp_rpt_033.pdf

❖ Interactive version: <http://coe-sufs.org/wordpress/ncfrp33/>



Home > Improving Freight System Performance in Metropolitan Areas: Planning Guide

Improving Freight System Performance in Metropolitan Areas: Planning Guide

- Introduction
- Urban Freight Transportation Decision Making
- Public Sector Initiatives
- Case Studies
- References
- Appendix
- Download FTG Software

NCFRP – Report 33

Freight flows are physical manifestations of the manufacturing and consumer economies that are foundations of modern life. Transportation policy seeks to ensure that freight is moved as efficiently as possible, as hampering the flow of cargo is bound to have a negative effect on the

1. Introduction
2. Urban Freight Transportation Decision Making



3. Overview of Public Sector Initiatives

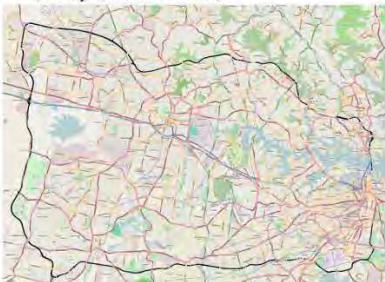

- ❖ 8 main groups from supply to demand related
- ❖ 54 separate initiatives within the 8 groups
- ❖ For each initiative there is:
 - ❖ A summary
 - ❖ One page outline
 - ❖ Planning and design considerations

Urban Freight Initiatives

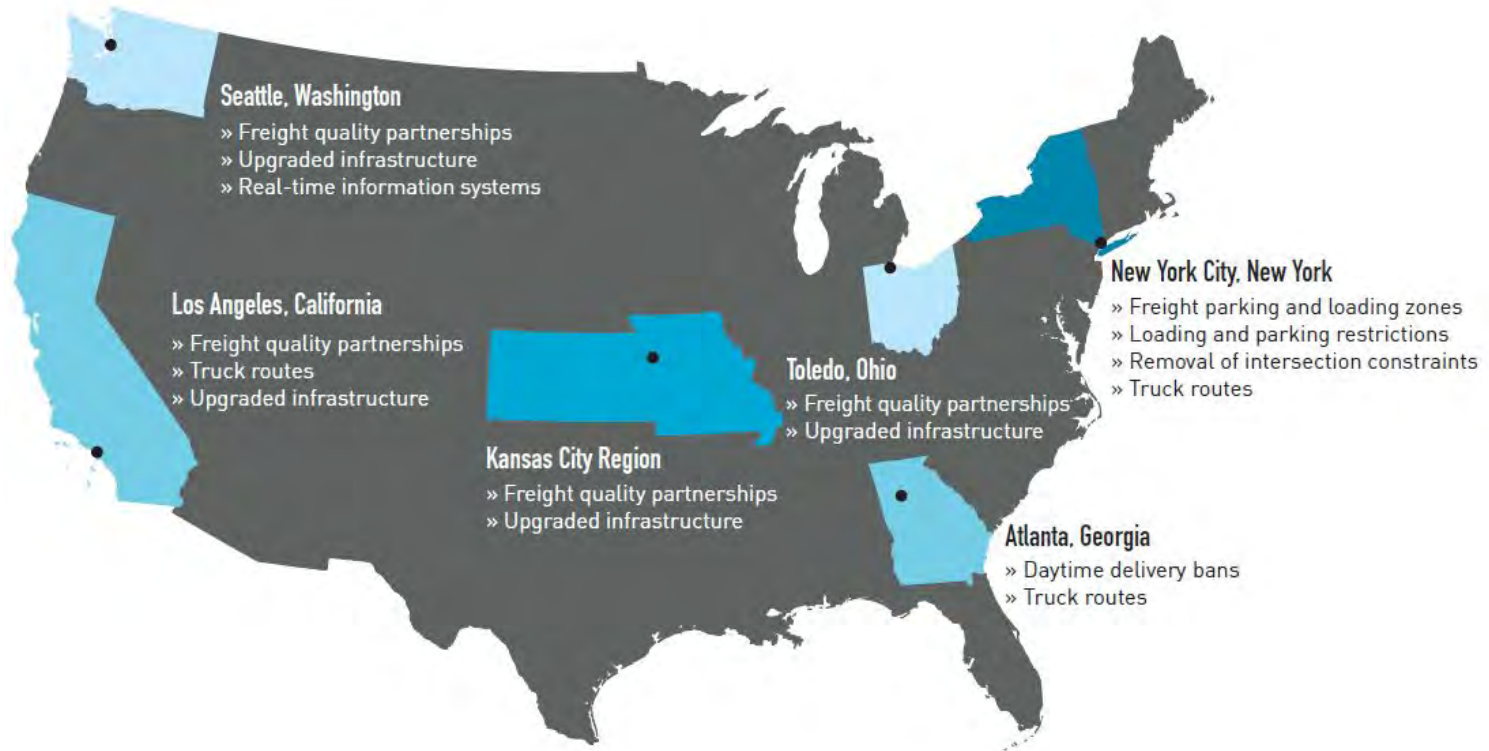
- ON-STREET PARKING AND LOADING**
Freight Parking and Loading Zones
Loading and Parking Restrictions
Peak-Hour Clearways
Vehicle Parking
Reservation Systems
- OFF-STREET PARKING AND LOADING**
Enhanced Building Codes
Timeshare of Parking Space
Upgrade Parking Areas and Loading Docks
Improved Staging Areas
Truck Stops/ Parking Outside of Metropolitan Areas
- ACCESS AND VEHICLE-RELATED RESTRICTIONS**
Vehicle Size and Weight Restrictions
Truck Routes
Engine-Related Restrictions
Low Emission Zones
Load Factor Restrictions
- TIME ACCESS RESTRICTIONS**
Daytime Delivery Restrictions
Daytime Delivery Bans
Nighttime Delivery Bans
- TRAFFIC CONTROL AND LANE MANAGEMENT**
Restricted Multi-Use Lanes
Exclusive Truck Lanes (Dedicated Truck Lanes)
Traffic Control
- CARGO CONSOLIDATION**
Urban Consolidation Centers
- INTELLIGENT TRANSPORTATION SYSTEMS (ITS)**
Real-Time Information Systems
Dynamic Routing
Vertical Height Detection Systems
- LAST MILE DELIVERY PRACTICES**
Time Slotting of Pick-Ups & Deliveries at Large Traffic Generators
Driver Training Programs
Anti-Idling Programs
Pick-up/Delivery to Alternate Locations



- MAJOR IMPROVEMENTS**
Ring Roads
New and Upgraded Infrastructure, Intermodal Terminals
Freight Cluster Development (Freight Village)
- MINOR IMPROVEMENTS**
Acceleration / Deceleration Lanes
Removal of Geometric Constraints at Intersections
Ramps for Handcarts and Forklifts
- TECHNOLOGIES AND PROGRAMS**
Emission Standards
Low Noise Delivery Programs / Regulations
- STAKEHOLDER ENGAGEMENT**
Designate a 'Freight-Person' at Key Agencies
Create a Freight Advisory Committee (FAC)
Educate Elected Officials
Create a Technical Advisory Committee (TAC)
Create a Freight Quality Partnership (FQP)
- PRICING**
Road Pricing
Parking Pricing
- INCENTIVES**
Recognition Programs
Certification Programs
Operational Incentives for Electric / Low Emission Vehicles
- TAXATION**
Taxation
- DEMAND MANAGEMENT**
Voluntary Off-Hour Delivery Program
Staggered Work Hours Program
Receiver-Led Delivery
Consolidation Program
Mode Shift Programs
- LAND USE POLICY**
Relocation of Large Traffic Generators (LTGs)
Integrating Freight into Land Use Planning Process

Initiative 1: Ring Roads for Bypass Traffic	
Description: The construction of bypasses (high speed ring roads, or beltways) to move through-trucks to the periphery of the urban area. Only viable if they lead to cost savings to carriers.	
Targeted mode: Through traffic	Geographic scope: Corridor
Type of Initiative: Infrastructure management: major improvements	Primary objective: Reduce congestion
Expected costs and level of effort to implement: The cost and effort to construct a new ring road can be very high, involving construction of a new roadway, roadway crossings, and interchanges. Such a construction project will involve long-term planning and implementation, elaborate needs assessments, and impact analyses.	
Advantages: <ul style="list-style-type: none"> Reduce congestion Enhance safety Environmental sustainability Reduce infrastructure damage 	Disadvantages: <ul style="list-style-type: none"> High probability for unintended consequences <ul style="list-style-type: none"> May lead to new development outside urban core Environmental impacts on the communities affected by the new road Environmental impacts associated with new construction Require very high capital investments Require private-sector acceptance
Typical example: <ul style="list-style-type: none"> Sydney Orbital Network, Australia (Transport for NSW 2012) "Through" Corridors in Atlanta, Georgia, United States (Georgia Department of Transportation 2011b) 	
 <p>Source: OpenStreetMap Contributors 2010</p>	 <p>Source: Georgia Department of Transportation 2011b</p>
Related alternatives: 1. New and Upgraded Infrastructure, Intermodal Terminals ; 2. Truck Routes ; 3. Exclusive Truck Lanes (Dedicated Truck Lanes)	
References: Marquez et al. 2004; PIARC 2011	

4. Case Studies



5. References

2. Initiative Selector



Initiative Selector: Rationale

❖ Objectives:

- ❖ To provide suggestions about initiatives to consider
- ❖ To provide a dynamic mechanism to explore the guide
- ❖ To provide a tool that could be expanded over time

❖ Limitations:

- ❖ The Initiative Selector is not a replacement for proper transportation decision making and planning...
- ❖ Due to the lack of a database of documented experiences the search criteria are very general
- ❖ Suggestions may not necessarily apply to local conditions...

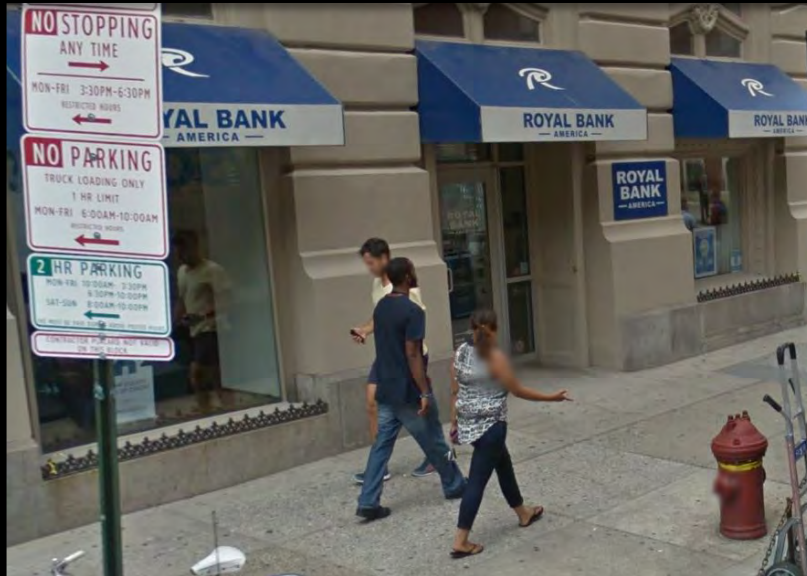
- ❖ Produced in collaboration with the CoE-SUFS, see:
<http://coe-sufs.org/wordpress/InitiativeSelector/>

1. Characterized the various initiatives in terms of:
 1. Nature of the Problem: Congestion, Pollution, Noise, Safety
 2. Geographic Scope: Nation, State, City, Area, Corridor, Point
 3. Problem Source: Through Traffic, Urban Deliveries, Large Traffic Generators, Large Trucks...
 4. Investment required: Very High, High, Moderate, Low...
 5. Implementation time: Long, Medium, Short...
 6. Potential for unintended consequences: Very High, High, Moderate, Low, None...
2. It finds initiatives that match the search parameters
See: <http://coe-sufs.org/wordpress/InitiativeSelector/>
3. Please help us improve it by providing feedback, sending us references, pictures, etc. etc.

How it Works?



Local Example: Walnut Street



Local Example: Walnut and Chestnut Streets

Chestnut Street



Source: Google Maps

Local Example: Walnut



Initiative Selector Tool



This application has been co-funded by the Transportation Research Board's (TRB) National Cooperative Freight Research Program. Page supports: Google Chrome, Internet Explorer 11, Safari, and Mozilla browsers.

How to use this application:
Select aspects of the traffic problems you seek solutions to on the left. The results will contain links to all the

Nature of the Problem	Show Selected Initiatives	Clear Selected																																						
<input checked="" type="checkbox"/> Congestion <input checked="" type="checkbox"/> Inadequate Infrastructure <input type="checkbox"/> Pollution <input type="checkbox"/> Noise <input type="checkbox"/> Safety <input type="checkbox"/> Stakeholder Engagement <input type="checkbox"/> Land Use	<table border="1"> <thead> <tr> <th>Initiative</th> <th>Investment</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> Enhanced building codes</td> <td>Low</td> </tr> <tr> <td><input type="checkbox"/> Vehicle size and weight restrictions</td> <td>Low</td> </tr> <tr> <td><input type="checkbox"/> Load factor restrictions</td> <td>Low</td> </tr> <tr> <td><input type="checkbox"/> Time access restrictions</td> <td>Low</td> </tr> <tr> <td><input type="checkbox"/> Truck stops/Parking outside metropolitan areas</td> <td>High</td> </tr> <tr> <td><input checked="" type="checkbox"/> Restricted multi-use lanes</td> <td>Low</td> </tr> <tr> <td><input type="checkbox"/> Road pricing/ incentives</td> <td>Moderate</td> </tr> <tr> <td><input type="checkbox"/> Parking pricing</td> <td>None / Low</td> </tr> <tr> <td><input type="checkbox"/> Certification programs</td> <td>None / Low</td> </tr> <tr> <td><input checked="" type="checkbox"/> Urban consolidation centers</td> <td>High</td> </tr> <tr> <td><input type="checkbox"/> Real-time information systems</td> <td>High / Very High</td> </tr> <tr> <td><input type="checkbox"/> Vertical height detection systems</td> <td>High / Very High</td> </tr> <tr> <td><input type="checkbox"/> Dynamic routing</td> <td>High / Very High</td> </tr> <tr> <td><input type="checkbox"/> Time slotting of deliveries/ Pick-ups for large traffic generators</td> <td>Low</td> </tr> <tr> <td><input checked="" type="checkbox"/> Pick-up/delivery to alternate locations</td> <td>Low</td> </tr> <tr> <td><input checked="" type="checkbox"/> Voluntary off-hour delivery program</td> <td>Moderate / High</td> </tr> <tr> <td><input type="checkbox"/> Staggered work hours program</td> <td>Low / High</td> </tr> <tr> <td><input checked="" type="checkbox"/> Mode shift program</td> <td>Low / High</td> </tr> </tbody> </table>	Initiative	Investment	<input checked="" type="checkbox"/> Enhanced building codes	Low	<input type="checkbox"/> Vehicle size and weight restrictions	Low	<input type="checkbox"/> Load factor restrictions	Low	<input type="checkbox"/> Time access restrictions	Low	<input type="checkbox"/> Truck stops/Parking outside metropolitan areas	High	<input checked="" type="checkbox"/> Restricted multi-use lanes	Low	<input type="checkbox"/> Road pricing/ incentives	Moderate	<input type="checkbox"/> Parking pricing	None / Low	<input type="checkbox"/> Certification programs	None / Low	<input checked="" type="checkbox"/> Urban consolidation centers	High	<input type="checkbox"/> Real-time information systems	High / Very High	<input type="checkbox"/> Vertical height detection systems	High / Very High	<input type="checkbox"/> Dynamic routing	High / Very High	<input type="checkbox"/> Time slotting of deliveries/ Pick-ups for large traffic generators	Low	<input checked="" type="checkbox"/> Pick-up/delivery to alternate locations	Low	<input checked="" type="checkbox"/> Voluntary off-hour delivery program	Moderate / High	<input type="checkbox"/> Staggered work hours program	Low / High	<input checked="" type="checkbox"/> Mode shift program	Low / High	
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Problem Source <input type="checkbox"/> Through Traffic <input checked="" type="checkbox"/> All Traffic <input type="checkbox"/> Large Trucks <input checked="" type="checkbox"/> Urban Deliveries <input type="checkbox"/> Large Traffic Generators																																								
Unique Solutions: 18																																								

Initiative 26: Restricted Multi-Use Lanes

Description: These initiatives promote the use of available road capacity by allocating restricted lane right-of-way to trucks, buses, and occasionally high-capacity bicycles. The lane usage can be allocated to different users using time windows, shift in on/off days, or restricted to specific use for certain users. Restrictions can be by vehicle type, or they can allow mixed traffic during the restriction interval.

Targeted mode: All traffic/large trucks	Geographic scope: Area
Type of initiative: Traffic management: lane management	Primary objective: Optimize road capacity

Expected costs and level of effort to implement: Lane management strategies and restrictions to multi-use lanes require thorough planning to consider the characteristics of the network and the needs of different users. Planning should involve extensive stakeholder engagement, and weigh both the positive and negative impacts to all agents that are part of the system. The costs are mainly associated with the installation of variable message signs or changeable message signs, and enforcement resources.

Advantages: <ul style="list-style-type: none"> • Reduce congestion • Enhance safety • Increase efficiency • Enhance livability • Can be used as incentive to foster other strategies 	Disadvantages: <ul style="list-style-type: none"> • May confuse drivers • May conflict with other traffic users • May not be adequate for sensitive locations • Hard to enforce • Lane geometry may not be adequate for large trucks
--	--

- Examples:**
- Multifunctional lanes in its commercial center: Barcelona, Spain (City Ports 2005)
 - Clean vehicles are allowed to use public transport lanes: Göteborg, Sweden (START 2009)
 - Consolidation vehicles are allowed to use bus lanes: Bristol, England (START 2009)
 - Truck lane restricted to right lane: New York City, New York, United States (The City of New York 2012), North Carolina, United States (Federal Highway Administration 2011; North Carolina Department of Transportation 2013)
 - Ban on through-trucks on Interstate inside the perimeter freeway: Georgia, United States (Georgia Dept. of Public Safety 2010)



Source: Federal Highway Administration 2011

Related alternatives: 1. [Acceleration/Deceleration Lanes](#); 2. [Traffic Control](#); 3. [Dynamic Routing](#)

References: Ogden 1992; City Ports 2005; BESTUFS 2007; START 2009; Georgia Department of Public Safety 2010; Federal Highway Administration 2011; SUGAR 2011; The City of New York 2012; North Carolina Department of Transportation 2013

3. FTG Software



Freight Trip Generation (FTG) Software

❖ Tool to identify main locations where freight is an issue in

❖ It applies NAICS

❖ Components

❖ **Module 1:** from Code

❖ **Module 2:** freight

❖ **Module 3:** estimation of FTG models.

❖ **Advanced features:** applying 4 types of models and the option of analyzing a set of ZIP codes at once

Freight Trip Generation Estimator

This software applies Freight Trip Generation Models based on business patterns at the ZIP code level. The models have been calibrated at 2 digit NAICS code level of aggregation and requires a preprocessing that generates a clean database with only this information from the original database for the entire United States.

Module 1: Preprocesses the raw database of ZIP code business pattern data and produces a reduced database with information for 2 digit NAICS codes in the United States.

ZIP Code Business Pattern
Input Data Preparation

Module 2: Applies FTG models at 2 digit NAICS code level.

Freight Trip Generation (FTG)
Models

Module 3: To Modify the Default Coefficients

Modify Default FTA and FTP
Coefficients

Developed by the Center for Infrastructure Transportation and the Environment (CITE) at Rensselaer Polytechnic Institute in conjunction with the VREF Center of Excellence for Sustainable Urban Freight Systems (CoE-SUFS)

Closing Remarks



- ❖ Freight should be integrated into the planning process
- ❖ There is a wide range of initiatives
 - ❖ There are no magic bullets, multi-prong approaches are key
 - ❖ The history is clear, traditional approaches have not reduced congestion, why do we keep using them?
 - ❖ Every situation is different, local conditions matter
- ❖ Some underutilized initiatives have great transformative potential, e.g., freight demand management
- ❖ The NCFRP 33 materials are an entry point...
 - ❖ Planners can use these tools to address freight issues within their jurisdiction
 - ❖ Planners expertise is important in choosing best alternatives

Thanks!
Questions?

Reference Materials:

Planning Guide: PDF version

http://onlinepubs.trb.org/onlinepubs/ncfrp/ncfrp_rpt_033.pdf

Planning Guide: Interactive version

<http://coe-sufs.org/wordpress/ncfrp33/>

Initiative Selector:

<http://coe-sufs.org/wordpress/InitiativeSelector/>

Freight Trip Generation Estimator:

<https://coe-sufs.org/wordpress/ncfrp33/appendix/ftg/>



Improving Freight System Performance in Metropolitan Areas NCFRP Report 33

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NCHRP Project 08-96

Integrating Goods and Services Movement by Commercial Vehicles in Smart Growth Environments

presented to

**DVRPC Downtown Deliveries
Symposium, Philadelphia, PA**

presented by

**Cambridge Systematics, Inc.
Chris Lamm**

July 15, 2015



What is NCHRP?

- The National Cooperative Highway Research Program (est. 1962) is sponsored by AASHTO members in cooperation with FHWA, and is administered by the Transportation Research Board of The National Academies of Sciences, Engineering, and Medicine.
- Forum for collaborative research addressing issues important to state DOTs and other transportation professionals



U.S. Department of Transportation
Federal Highway Administration



NCHRP Project 08-96 Research Goals and Objectives

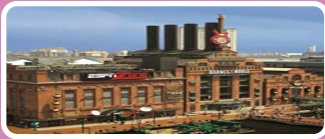
- **Identify and describe practices that effectively and efficiently integrate goods and services movement in smart growth environments.**
- **Develop a guide containing planning, urban design, transportation/logistics operations strategies that avoid or mitigate conflict and support mutual goals**
- **Audience includes:**
 - » **Planners, economic development**
 - » **Transportation engineers**
 - » **Developers/architects**
 - » **Freight shippers/receivers and carriers**
 - » **Advocacy groups**



Six Smart Growth Environments



Industrial areas transitioning to multiple/mixed uses



Working waterfronts transitioning to multiple uses and/or recreation



Older neighborhoods being revitalized



Retrofitting aging commercial corridors



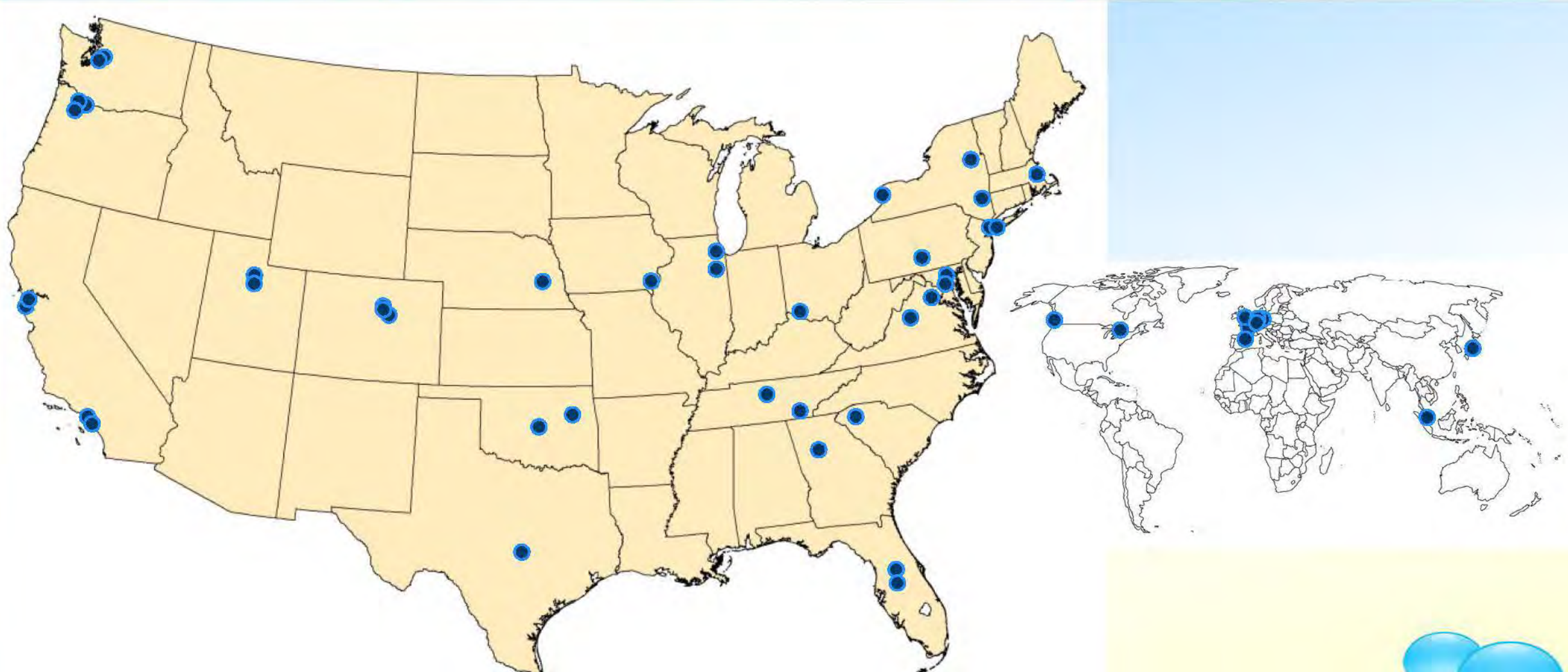
Greenfield new communities



Large-scale retrofits



Examples of Conflicts and/or Best Practices Worldwide



Key Cross-Cutting Conflicts/Issues



Land Use Conflicts

- Encroachment of seemingly incompatible uses
- “Good neighbor” issues



Changing Demand/Travel Patterns

- Customer demands time-certain delivery
- Apparent need to optimize deliveries to reduce impacts



Design/ Streetscape Conflicts

- Complete streets must include trucks
- 53’ trailer vs. smaller delivery vehicle



Transportation Operations Conflicts

- Time-of-day conflicts
- Loading zone/ parking availability



Large City Downtown Example: Berlin, Germany

- Second most populous city in Europe (3.3 million)
- Developing rapidly
- Sustainability drives government planning/development decisions
- Established “Urban Freight Laboratory” to pilot innovative delivery schemes
 - » Steglitz/Friedenau, highest population density district
 - » Collected freight data on more than 100 participating businesses



Commercial Streetscape in Berlin's Urban Logistics Laboratory Area
Source: Google maps



Large City Downtown Example: Berlin, Germany

- **BentoBox, consolidation concept, piloted in 2012**
- **How it works:**
 - » **Outgoing packages/parcels can be pooled together and picked up by truck at a central location**
 - » **Incoming packages/parcels can be delivered to the box and picked up at the BentoBox**
- **Results:**
 - » **Reduces truck trips and loading zone demand**
 - » **Offers time-flexibility**
 - » **Transferable**



BentoBox
Source: city-log.eu



Large City Downtown Example: Berlin, Germany

- **Other strategies include:**
 - » **Alternative delivery vehicles (cargo cycles, electric vehicles, etc.)**
 - » **Loading zones and loading windows**
 - » **Combined bus/truck lanes**
- **Success Factors:**
 - » **“Laboratory” concept saves data collection/survey costs**
 - » **Established and maintained constructive relationships with interested businesses**
 - » **Government agencies committed to reducing environmental and quality of life impacts of freight**

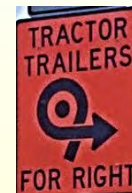


Urban Mobility Challenge: Berlin 2030
Source: Localmotors



Small City Downtown: Glens Falls, NY

- Small city of 15,000 in the Adirondack Region
- Glen Street (U.S. Route 9) is the main commercial corridor in the city
- 5-point signalized intersection with 140-second cycle, resulting in major delays
- In 2007, city completed a streetscape project including:
 - » Transforming 5-leg intersection to urban roundabout
 - » Transforming 3-lane one-way thoroughfare to two-way 2-lanes with median
 - » Sidewalk bulb-outs and improvements
 - » New lighting and landscaping

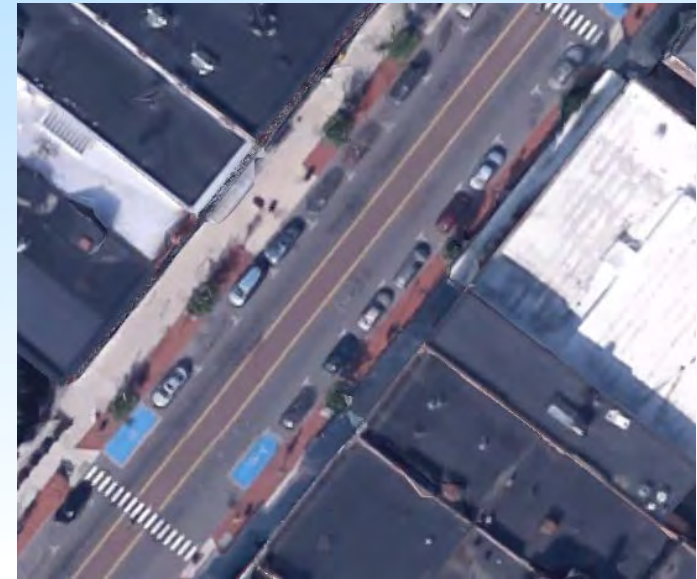


Source: Creighton Manning Engineering



Small City Downtown: Glens Falls, NY

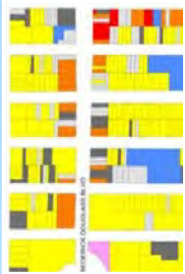
- **Project is credited with reinvigorating Glens Falls:**
 - » Traffic volume increased 20%, but delays reduced
 - » Vehicle travel speeds are slower
 - » 40,000 sf of retail and 400 residential units developed
- **Goods Movement/Delivery Benefits:**
 - » Travel time savings
 - » Growing business community and population
 - » Median became an “accidental” loading zone solution
- **Success Factors:**
 - » Safety was the primary objective, a goal all stakeholders supported
 - » Education and enforcement makes the design “work”
 - » Design must accommodate trucks, even if trucks are discouraged



Source: Google maps



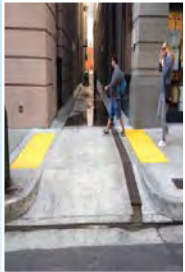
Categories of Strategies



Land Use



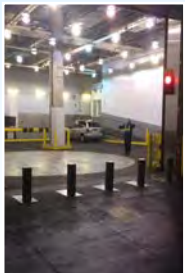
Management



Street Design



Logistics



Building Design

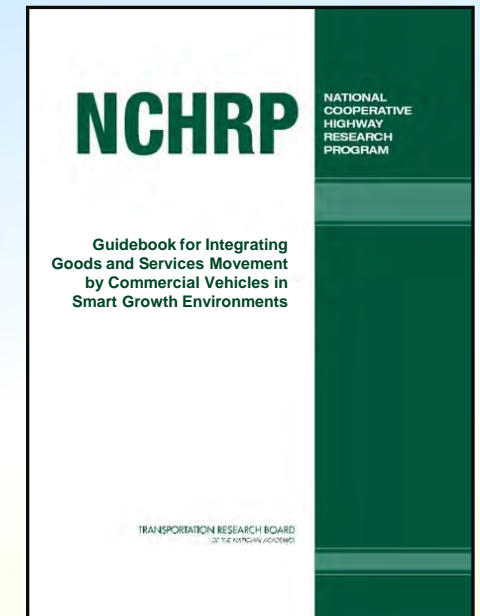


Information and
Collaboration



Guidebook

- **Draft is in development now**
- **Contents include:**
 - » **Introduction and purpose of the Guide**
 - » **Role of freight/deliveries in an urban environment**
 - » **Common conflicts between freight and smart growth goals**
 - » **Goal-setting and mutual benefits**
 - » **Case studies**
 - » **Categorized list of strategies for supporting goods movement in smart growth environments**
 - » **Conclusions and lessons learned**



Next Steps

- **Complete case study visits and focus groups**
- **Develop a Draft Guide**
- **Convene a Peer Exchange to review the Draft Guide**
- **Produce and publish the final version of the Guide**



Thank You!

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**DOWNTOWN
DELIVERY**
Symposium

Session 3 – Highlighting Best Practices New York City & London Peer Exchange

Stacey D. Hodge, New York City DOT

Overview

- Existing Conditions in NYC and London
- Notable Quotes and Observations – Key Themes
 - Value Other Perspectives
 - Accountability and Fairness
 - Wider Cooperation across the City
- Summary of Best Practices
- Conclusions

Existing Conditions: London Boroughs



Population 8.6 M
33 Boroughs
Area 607 sq. miles

Existing Conditions: New York City Boroughs

Population 8.4 M
5 Boroughs
Area 302 sq. miles



London



Where the sense of place is important, you may get behavior change.

Existing Conditions: New York City



London: Alley Without Consolidation



London: Alley With Consolidation



© NYCDOT Freight 2015

London: Regent Street Consolidation Area



© NYCDOT Freight 2015

London: Consolidation of Restaurant By Products



London: Regent Street



REDUCTION IN
VEHICLE MOVEMENT

IMPROVED AIR
QUALITY

DRIVE
FOOTFALL

INCREASE
SALES

London: Regent Street



“Wallets on the sidewalk”...where public space was improved rents increased by 30% compared to Central London which saw rents increase 20%.

London: Existing Conditions

Cycling projected to increase 400% by 2025 & TfL is reducing the road network by 30 %

New York City: Existing Conditions

20

Average annual number of pedestrians and cyclists fatalities resulting from collisions with trucks between 2011 and 2013.



New York City: Existing Conditions

50

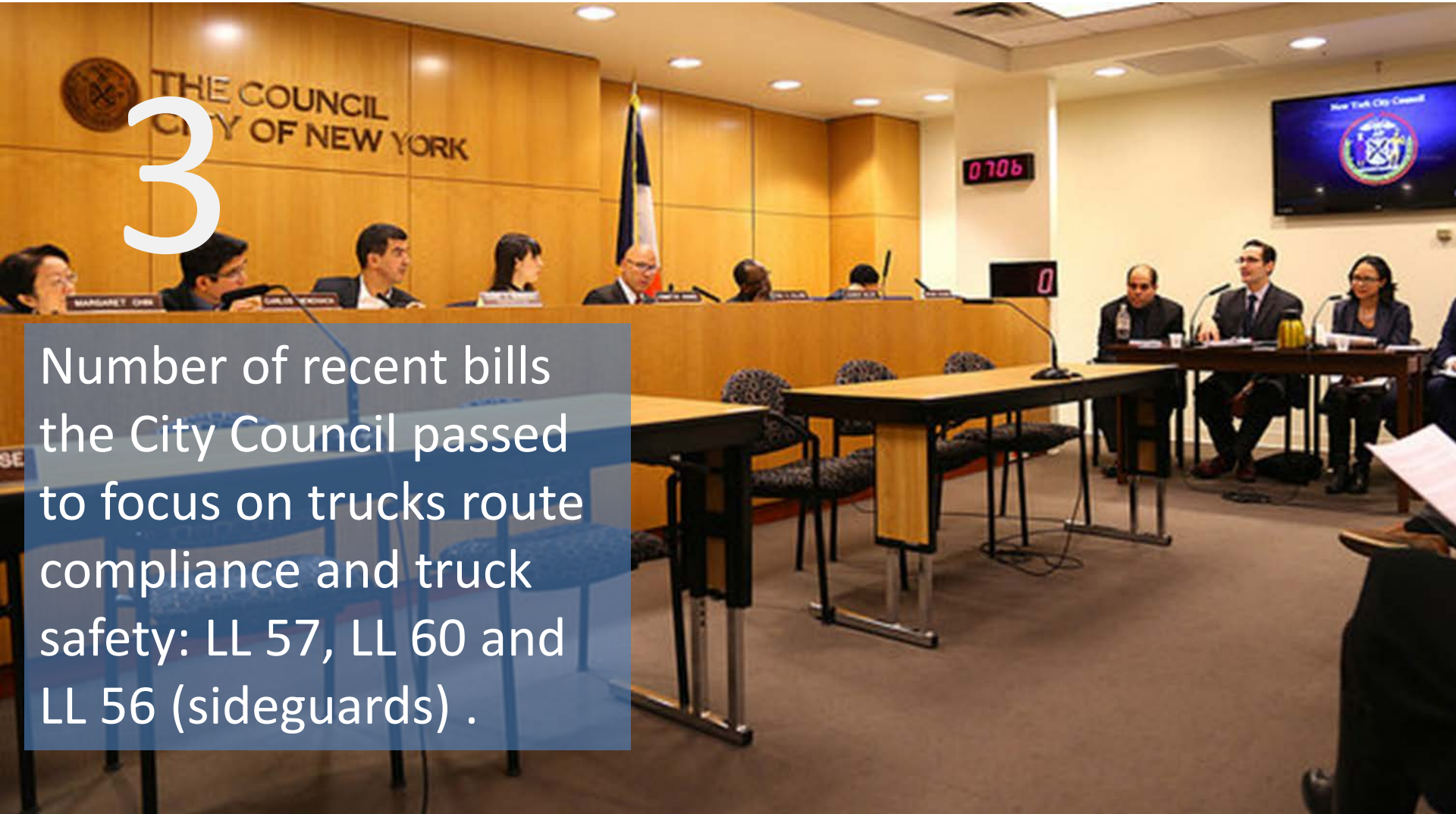
Nearly half of the truck routes fall within the Vision Zero priority corridors and areas.



New York City: City Council Oversight

3

Number of recent bills the City Council passed to focus on trucks route compliance and truck safety: LL 57, LL 60 and LL 56 (sideguards) .



London: Truck Enforcement



© NYCDOT Freight 2015

London: Truck Enforcement

25

The percentage drop in fatal collisions involving trucks in central London after 1.5 years of Joint Truck Enforcement Ops.



VEHICLE SAFETY CHECKS

Specialist Roads Policing officers and staff from partner agencies are conducting roadside vehicle checks to:

- Prevent the use of dangerous, and potentially dangerous vehicles on the road.
- Promote public awareness of the need to maintain vehicles in a roadworthy condition in the interests of road safety and environmental protection.
- Provide advice and education to vehicle drivers and operators.
- Deter drivers and operators from issuing penalties.

London: Off Hour Deliveries



Marks and Spencer has been doing night deliveries for over 15 years.

© NYCDOT Freight 2015

Notable Quotes

- Marks and Spencer would not pay out bonuses to executives unless the corporate social responsibility aims were met (Clipper Logistics June 2015)
- Whitbread, which opens a new hotel every 10 days, and 3 to 4 new Costa Coffee locations per week, ensures that all new outlet openings include a noise impact assessment. (CILT conference June 2015)

London: Off Hour Deliveries



© NYCDOT Freight 2015

New York City: Off Hour Deliveries



London: Using Marine Highways



© NYCDOT Freight 2015

London: Goods Loading Priority Time



London: Loading Priority during Morning Hours



London: Gnewt Cargo 100% Electric Fleet



How people want to be served in the area where they live will determine if we deliver in a cargo cycle or truck (UK Panel Discussion June 2015)

London: Gnewt Cargo 100% Electric Fleet

Deliver on average between 5,000 to 20,000 parcels daily into the Central London congestion charge, emission free zone

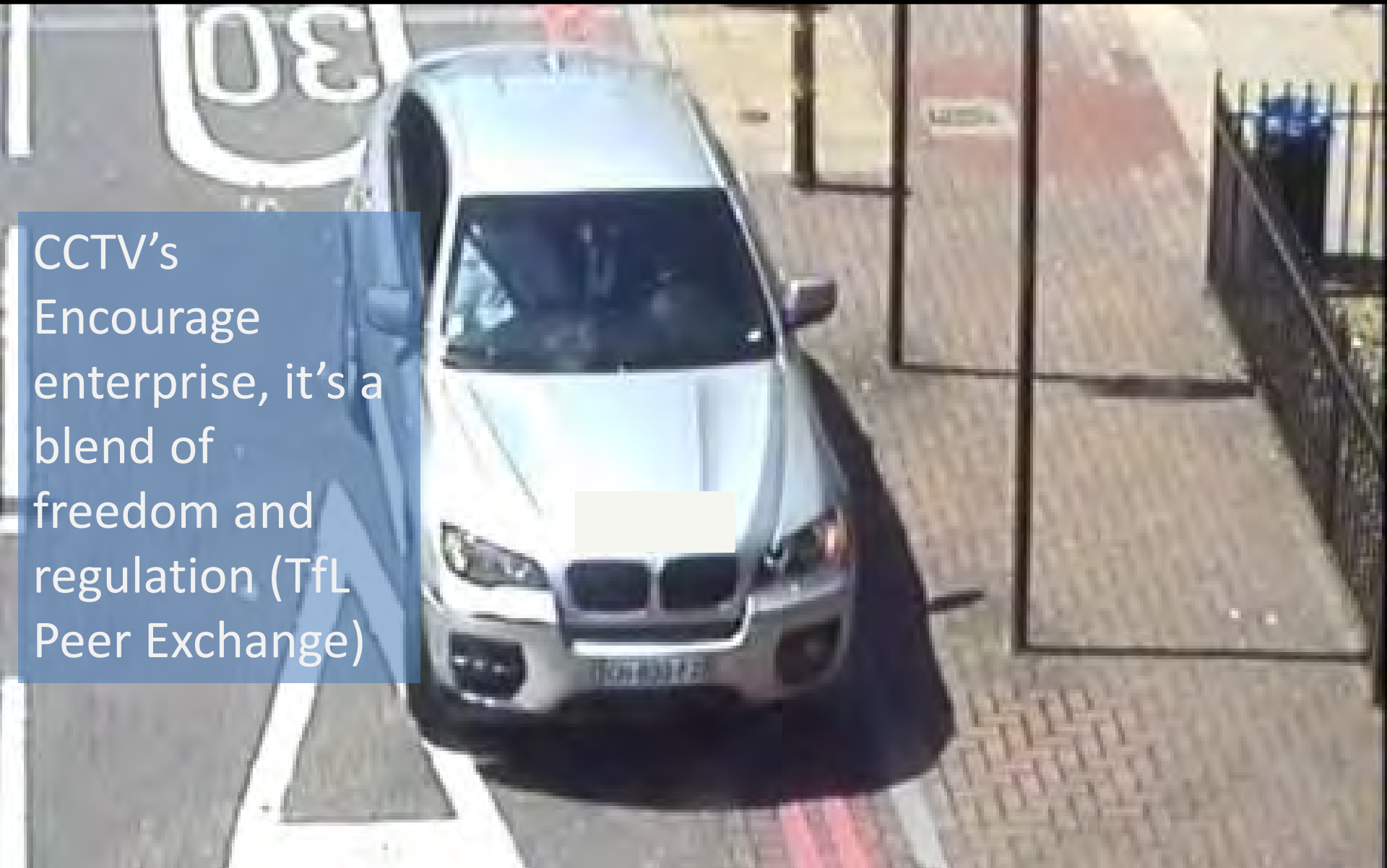


London: CCTV Enforcement

- To improve compliance of drivers within the traffic regulations and road safety
- Contribute to improved journey time reliability and general traffic flow – Keep London Moving
- To improve service for socially excluded customers
- To change behavior and perception
- 600 speed cameras installed in slow zones

London: CCTV Enforcement

CCTV's
Encourage
enterprise, it's a
blend of
freedom and
regulation (TfL
Peer Exchange)



NYC: Mobile CCTV Units



NYC: CCTV Technology



84

Number of off route heavy construction trucks observed in 13 hours of time lapse cameras video in Jamaica Hills Queens.

NYC: Time Lapse Camera Curb Observations



NYC: Weigh in Motion Site



New York City: Industry Involvement



London: DHL – Safe, Quiet Demonstration Truck



“Lead by example”
DHL custom built
this truck to
educate and
inspire others.

NYC: Truck Blind Spot Education



DHL in UK has trained ½ Million elementary school children on safety and trucks.

Conclusions

- Inspire others with a vision and let them figure it out.
- Understand the shopping patterns of your residents to understand what is guiding truck deliveries.
- Demonstrate that you have listened.
- Work on a best practice basis.



Thank You!

Comments/Questions?


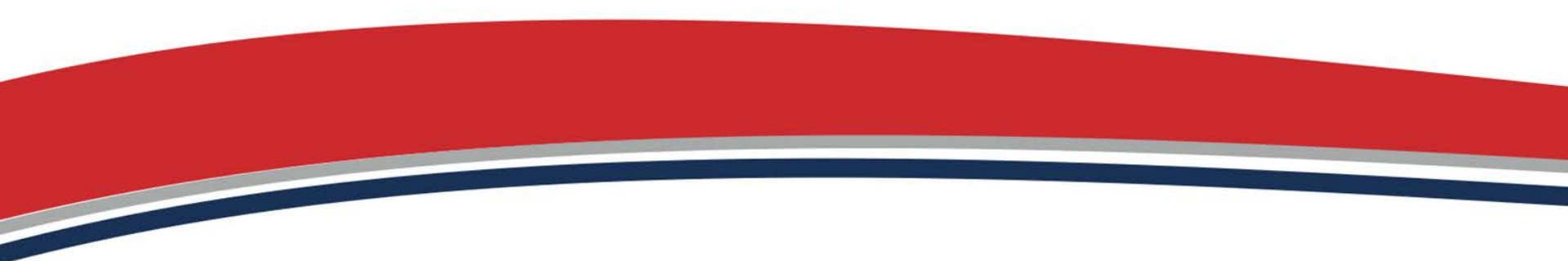
Stacey D. Hodge

Director, NYC DOT

212.839.6670 | shodge@dot.nyc.gov

www.nycdot.gov/trucks

Downtown Delivery Symposium

A large, stylized red lowercase letter 'd' followed by a red dot, positioned to the right of the main title text.



How to create an efficient urban freight system?

Help to get the product to the consumer at the right time, place and price

Improving the point of delivery

Proper use of Public Space/Loading Zones



Commercial Curbside Loading Zone (CLZ) Program


The intent of the program is to:

- Maximize use of curbside space
- Dynamic curbside parking solutions
- Derive reliable real-time occupancy data
- Provide real-time traveler information
- Improve traffic flow
- Provide freight efficiency




Program Development

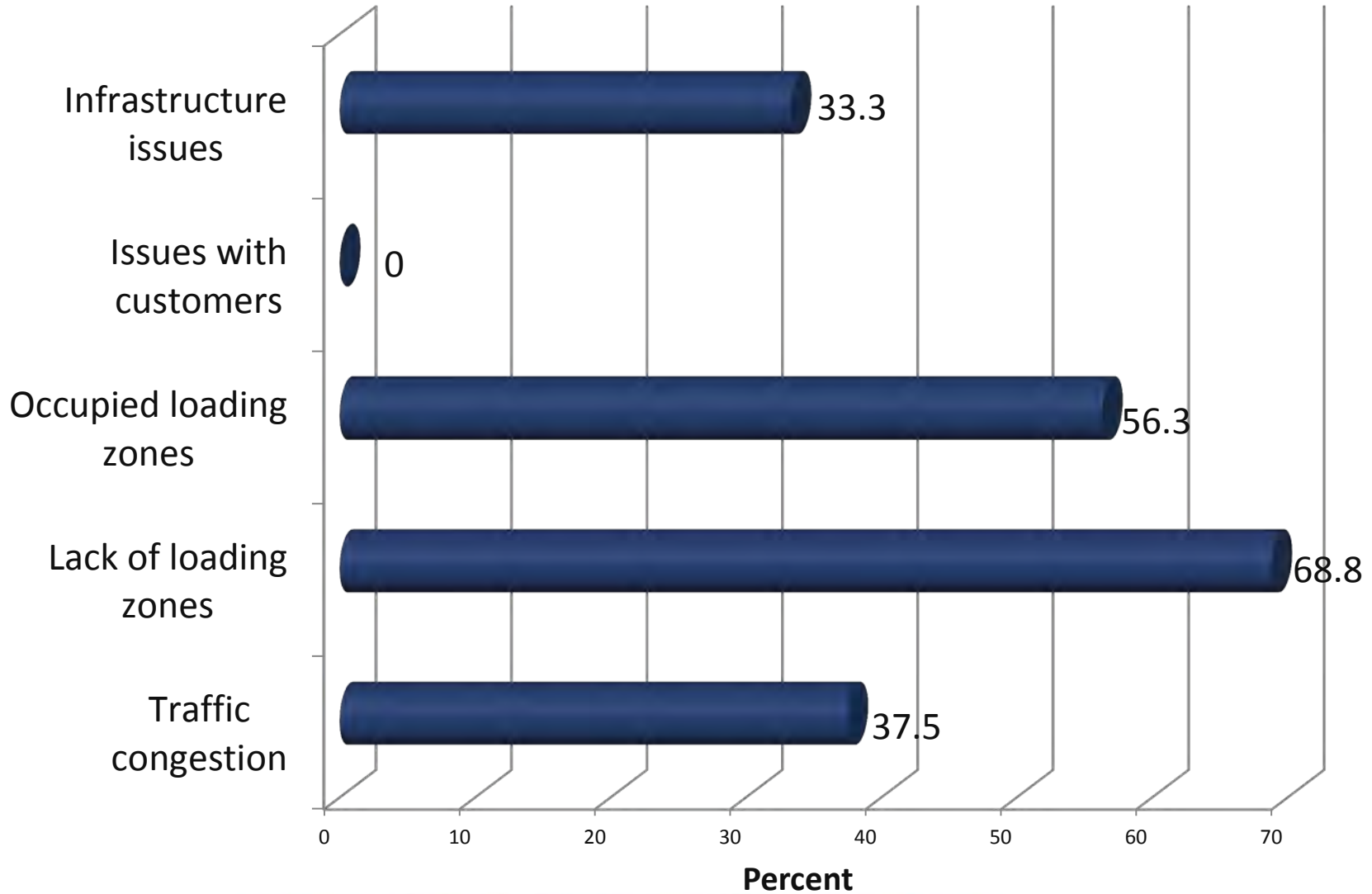


- **Data collection and outreach**
 - Regulation/Rulemaking Process
 - Implementation
 - Evaluation and further usage
- 

Outreach and Data Collection

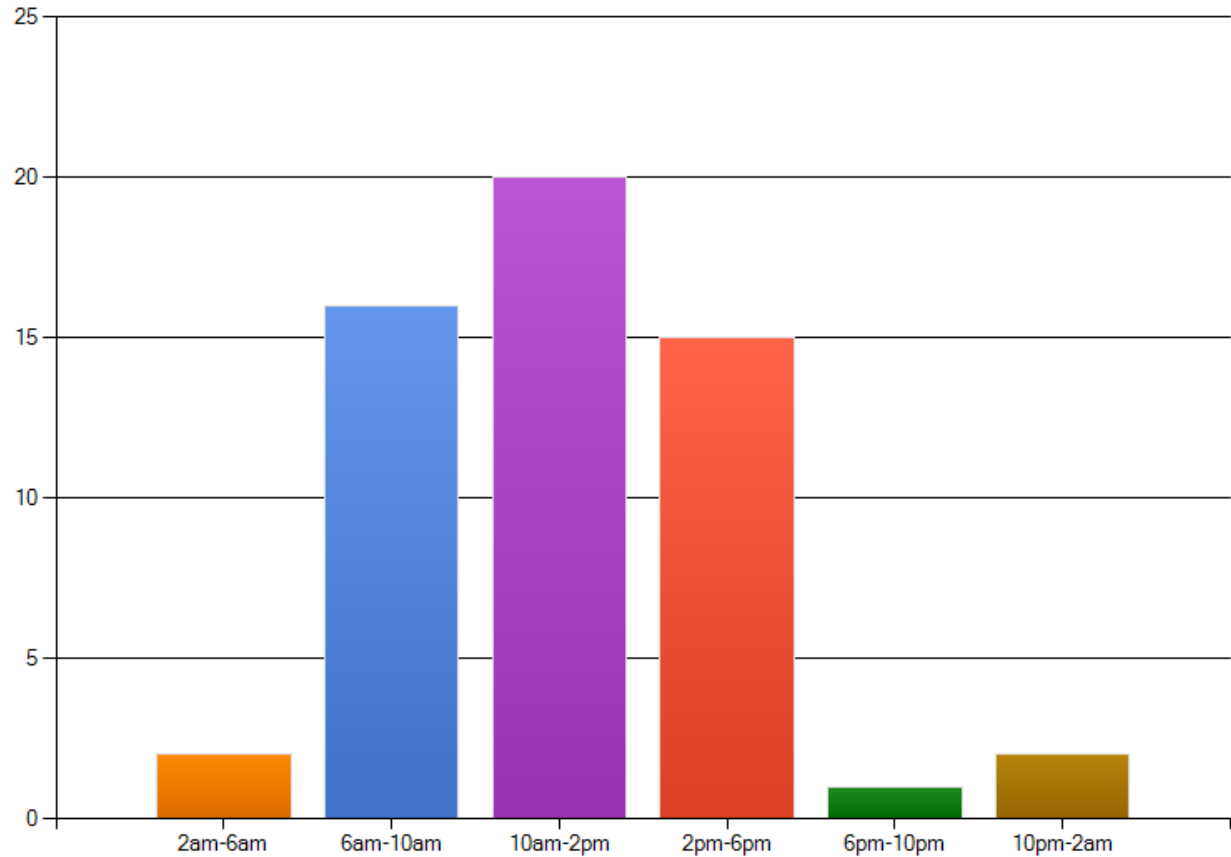
- Incorporating feedback from stakeholders
 - BIDs(Business Improvement Districts)
 - Freight stakeholders
 - Other business interests
 - Data collection efforts
 - Identification of loading zones
 - Freight stakeholder survey
 - Focus Groups (FedEx, UPS, Guernsey Products, Association of Beverage Alcohol Wholesalers, ATA)
- 

Survey Results



Survey Results (cont'd)

What time do you typically make deliveries?(You can select more than one)

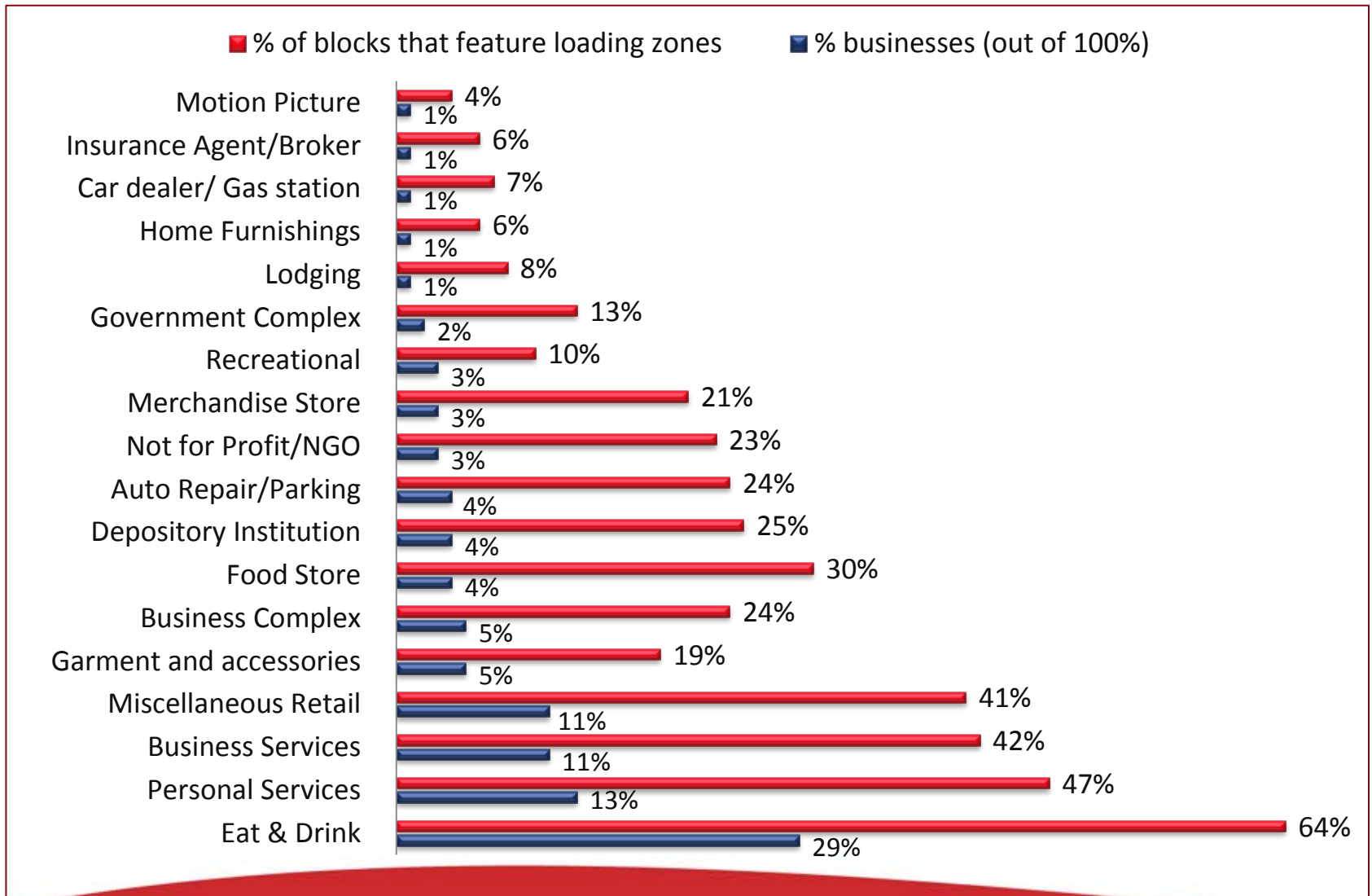


Most deliveries
occur from
6:00am-6:00pm

Loading Zones Supporting Local Economy


- **\$16.3 billion** or **27%** of city's revenues are generated within 200 feet of existing loading zones (580 total loading zones in DC)
- **129,950** jobs directly or tangentially affected by truck freight represent **15.8%** of the 823,000 jobs in the District (in 2011)
- Business revenues citywide are **\$60.1 billion**
 - Generated by roughly 60,000 businesses
- Average revenues per business is **\$1.2 million**

Business Composition on blocks featuring Loading Zones



Program Development



- Data collection and Outreach
 - **Regulation/Rulemaking Process**
 - Implementation
 - Evaluation and Further usage
- 

New Regulations- Commercial Loading Zones

- Chapter 24 of Title 18, (Passes and Decals)
 - Prepaid annual and day pass available for carriers
 - \$323 per vehicle-annual
 - \$25 per vehicle per day pass
 - Decal required for annual permit
 - A permit with 75 or more vehicles listed are exempt for the decal requirement
 - Allows for parking up to 2 hours
 - An annual and day pass allows carriers to park in private vehicle metered area between 10am and 2pm for 2 hours(vehicle must be less than 40 feet in length)

New Regulations (cont'd)

- Pay at a single space meter
 - Some zones may have electronic single head meter
 - No more than \$5 per hour
- Use alternative payment method(pay-by-phone)
 - Carriers can pay by use of the space through District pay-by-phone system
 - Each space will have a subzone
 - No more than \$5 per hour
- Fines
 - Unauthorized vehicle in loading zone- \$100
 - No permit or payment for use of loading zone- \$100
 - Improper display of parking decal, Expired annual or day pass – \$50

Program Development

- Data collection and Outreach
- Regulation/Rulemaking Process
- **Implementation**
- Evaluation and Further usage

Welcome Eulois Cleckley
If this is not you, [click here](#)

[Back](#)

Commercial Vehicles Annual Tag/Permit Application

Please read the descriptions about the different types of Tag/Permits offered below and click on your appropriate type to begin the application process.

Annual Tag	To authorize a dump truck, cement mixer or trash truck to have a gross weight of 65,000 pounds; a truck crane or concrete pump truck to be up to 11 feet wide; or to authorize a tractor trailer to have a combined overall length of up to 70 feet when moving within the District.
Commuter Bus	To authorize the establishment of curb side Commuter Bus Stops and to post signage on an existing pole or to post signage on a new pole. A Commuter Bus is a public/private vehicle with more than 15 seats that transports commuters to and from locations within the District.
Inter City Bus	To authorize the establishment of curb side Intercity Bus Stop and to have signage installed. An Intercity Bus provides regularly scheduled bus service for the general public with limited stops between the District and other areas not in close proximity of the District.
Shuttle Service	A van or bus that is used to transport passengers between worksites.
Sight-seeing Bus	To authorize the establishment of curb side Sightseeing Bus Stops and to post signage on an existing pole or to post signage on a new pole. A Sightseeing Bus is a private vehicle with more than 15 seats used for public sightseeing or touring within the District.
Loading Zone-Annual	To obtain commercial loading zone parking permits for commercial carriers providing delivery services within the District.
Tour Bus	A bus used for sightseeing and touring purposes, and used to transport passengers principally from one (1) destination to another and back to the original destination.

Commercial Loading Zones Will Require a Permit or Meter Payment

Starting January 1, 2015

In order to use a Loading Zone you must:

- Be operating a commercial vehicle;
- Be actively loading or unloading;
- Display a permit; or
- PAY-BY-CELL.



Government of the District of Columbia


LES ONLY

PARKING
LOADING
ZONE
DAM-4
PM-10
DAY-FRID
AY-9:30
RDAY-10




of the
ng zones
age that
nis.

Program Development

- Data collection and Outreach
 - Regulation/Rulemaking Process
 - Implementation
 - **Evaluation and Further usage**
- 

Program Benefits

- Begins to incorporate loading zone as apart of the transportation network
 - Improved data aids with right-sizing loading zone space via modeling effort
 - Improved information for freight carriers and develop reliability
 - Pay-by-Phone option provides fleet mangers with visibility and control
 - Increase use of space decreases congestion and encourage compliance
 - Scalable to other commercial curbside loading needs (bus parking)
- 

Development of Interactive Freight Map

Truck and Bus Through Routes and Restrictions

Use the boxes to turn on and off layers. **On the map, click on an individual feature to get detailed information.**

[Select All](#) [Clear All](#)

Truck Routes, Restrictions and Loading Zones

Loading Zones ●

Truck and Bus Through Routes —

Truck Restrictions —

Bus Routes, Restrictions, Parking and Drop-off/Pick-up

Please note, at this time, origins and destinations can be entered for DC only.

Examples: 441 4th Street NE; 400 Block of 4th Street NW; C Street NE and 10th Street NE.

Origin (Optional) 📍

 Destination (Optional) 📍

Loading Zones

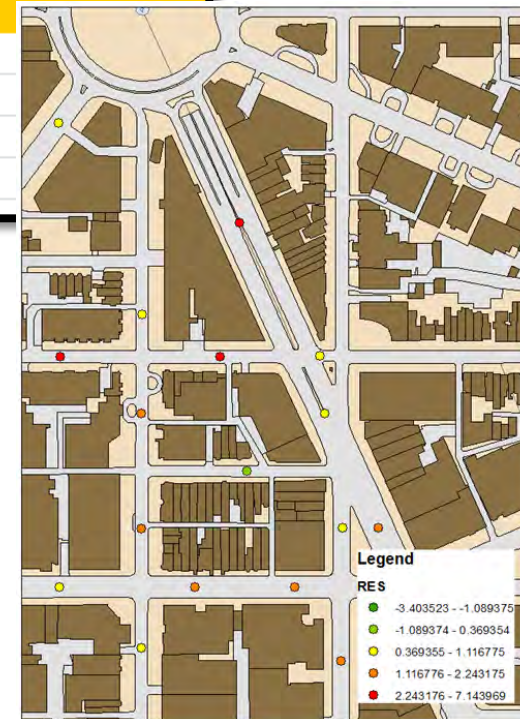
Address	Days of Operation	Hours of Operation	Length of Loading Zone	Side of Street	Curb position
N	Monday-Saturday	0930AM-0400PM	48	West	N/A

DC Basemap Map Satellite

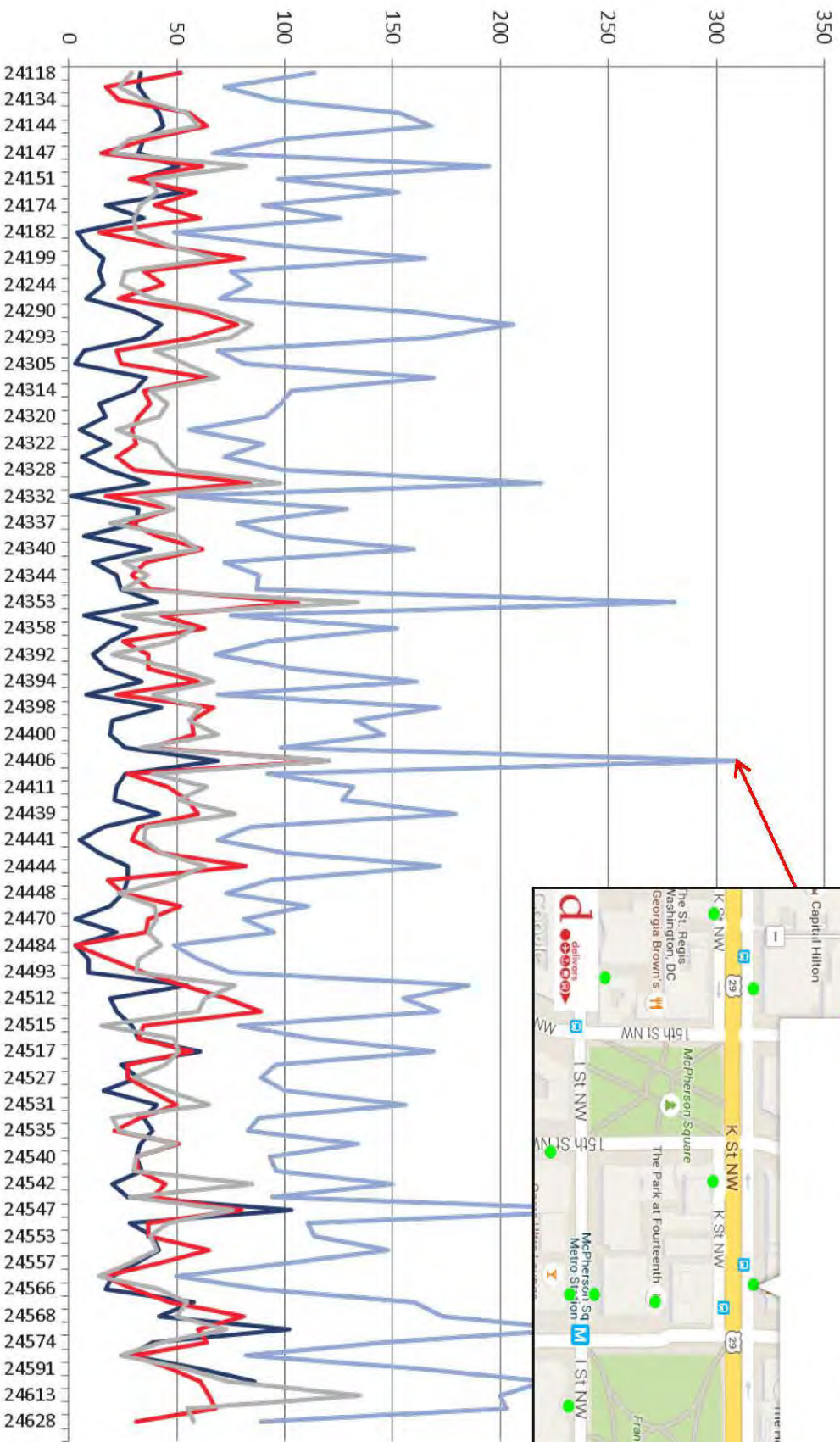
Commercial Vehicle Loading Zone Analysis Model

Commercial Vehicle Loading Zone Analysis Model:			
Business SIC Category:	58	Business SIC Category:	54
Occupancy Rate	37.17%	Occupancy Rate	17.17%
Total Number of Deliveries	13	Total Number of Deliveries	4
Total Delivery Time (Minutes)	223	Total Delivery Time (Minutes)	90.5
On Average Each Delivery is: (Auto-Populated)	17.15384615	On Average Each Delivery is: (Auto-Populated)	22.625
Please Enter # of Businesses in This SIC Category:	1	Please Enter # of Businesses in This SIC Category:	1
Total Deliveries/Day: (Auto-Populated)	13	Total Deliveries/Day: (Auto-Populated)	4
Minutes Utilization: (Auto-Populated)	223	Minutes Utilization: (Auto-Populated)	90.5
Delivery Utilization Index: (Auto-Populated)	37.17%	Delivery Utilization Index: (Auto-Populated)	15.08%
Total Index:(Auto-Populated)	0.743	Total Index:(Auto-Populated)	0.323
Is an alley available for loading and unloading?(Y or N)	N		
Is a loading dock available for loading and unloading? (Y or N)	N		
Block Make-up Index	2.746		
Should This Block Have a Commercial Vehicle Loading Zone?	LoadingZoneNotNeeded		

- A sustainable, consistent, and repeatable process to uniformly evaluate curbside loading zone needs.
- Freight Trip Generation (FTG) models are used to estimate the delivery needs for business establishments at a block face level.




CLZ Usage Analytics



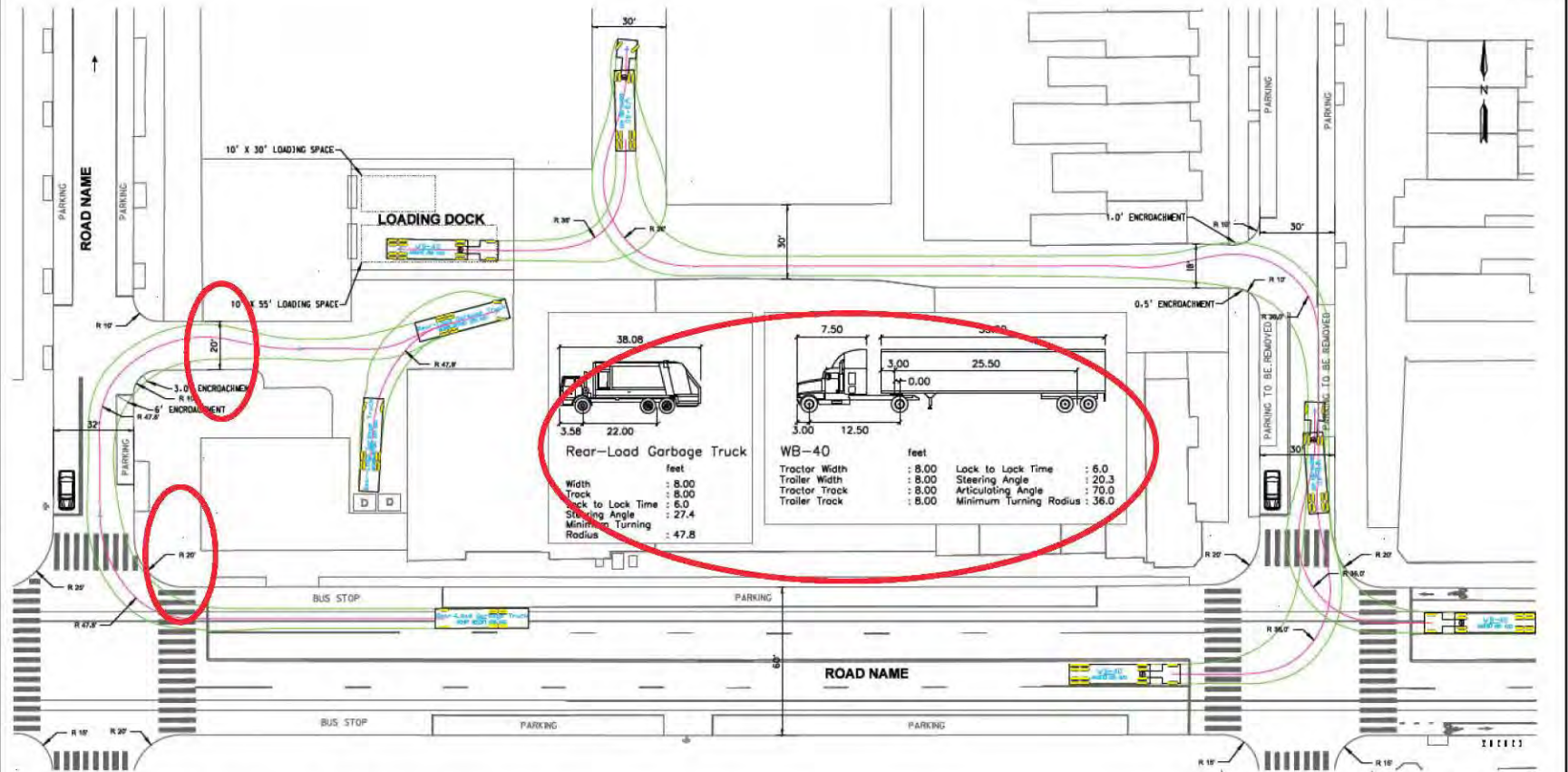
The map shows the McPherson Square area in Washington, DC, with several loading zones marked by green dots. A data table is overlaid on the map, providing details for a specific loading zone.

Loading Zones			
Address	Days of Operation	Hours of Operation	Length of Loading Zone
1401 K STREET NW	Monday-Friday	0700AM-0630PM	105
Side of Street	Curb position	Approach	
North	North		

Integrating Freight into Project Level

- Establishing freight considerations into Building/Plan Permits, Construction Permits and Public Space Permits
 - Zoning Rewrite
 - Proposed Loading Changes:
 - 30 foot loading berths
 - Required internal access
 - Alley access if an improved alley of 15 feet or more exists
 - Platform specifications and requirements
 - Data Requirements
 - Number and dimensions of loading facilities
 - Prescribed use and known tenant information
 - Delivery frequency and truck size based on use
 - Autoturn template and diagrams
- 

REV	DATE	PROJECT	SHEET NO.	TOTAL SHEETS
-	D.C.			



- AUTOTURN PLANS MUST INCLUDE:**
1. EXISTING AND PROPOSED LANE MARKINGS INCLUDING CROSSWALKS, MEDIANS/REFUGE ISLANDS, BICYCLE LANES, BUS LANES, ETC.
 2. EXISTING AND PROPOSED/RELOCATED CURBSIDE USES, INCLUDING BUS STOPS, RESIDENTIAL PERMIT PARKING, METERS, AND COMMERCIAL LOADING ZONES.
 3. BICYCLE INFRASTRUCTURE AND FACILITIES.
 4. ALL CURB RADII, GUTTER PAN LOCATIONS, CURB CUT WIDTH, AND ROADWAY WIDTH LABELS.
 5. TRUCK TURN MOVEMENTS TO, FROM, AND WITHIN THE LOADING DOCK, ACCESS AND EXIT FROM THE SITE AND/OR DRIVEWAY, ROUTING TO AND FROM SITE, CRITICAL INTERSECTIONS, AND/OR ACCESS TO AND FROM TRASH LOADING FACILITY/LOCATION.
 6. TRUCK PROFILE, AND TRUCK TURN RADII, FULL PATH OF TRUCK



d.
District Department of Transportation

NO.	DESCRIPTION	NAME	DATE

AUTOTURN ENTRANCE MOVEMENTS EXAMPLE

D.C. DEPARTMENT OF TRANSPORTATION
POLICY, PLANNING, AND SUSTAINABILITY ADMINISTRATION

PROJECT NAME
INBOUND/OUTBOUND/
CRITICAL INTERSECTIONS

WB-40 AUTOTURN MOVEMENTS
SHEET - 1

PROJECT ENG.	
DESIGNED BY	
DRAWN BY	
PROJECT MAN.	
DESIGN CHIEF	
DATE	
FILE	
SHEET X OF X	

Streetcar and Freight

- New streetcar (Hst NE) line required a change in loading behavior
- Adjusted spaces to side streets along corridor to address deliveries
- Space became the first shared loading zone with metered parking(trucks load between 7am-6:30pm; metered parking for personal vehicles from 6:30pm to 10pm)
- Extensive coordination with freight industry, community and business



Before changes to Hst NE

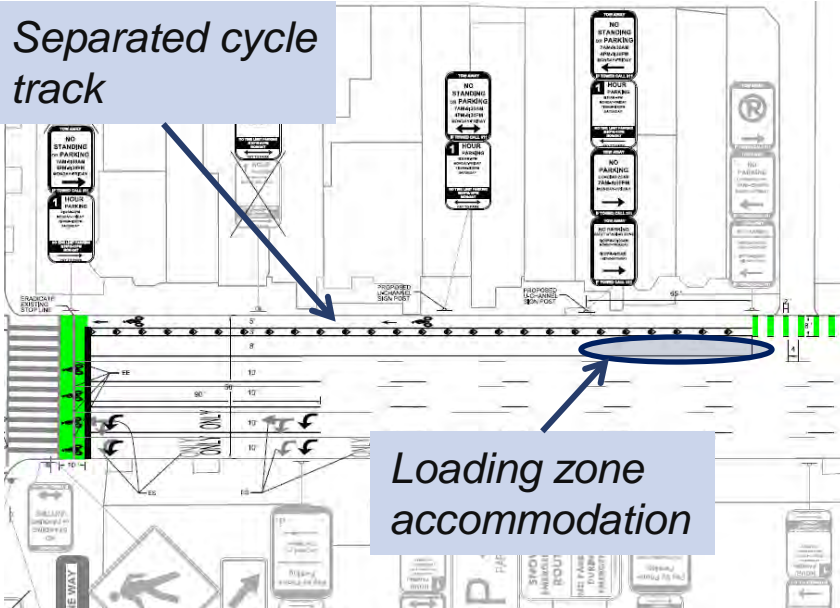


After moving loading to side street along the streetcar corridor

Bikes and Freight

- Modal priority critical to allocate curbside for freight
- New projects require consistent coordination with DDOT Freight and Bike teams to accommodate freight deliveries
- New bike lanes provide an opportunity to adjust curbside needs to proper freight demand
- Industry outreach important to obtain compliance

Separated cycle track

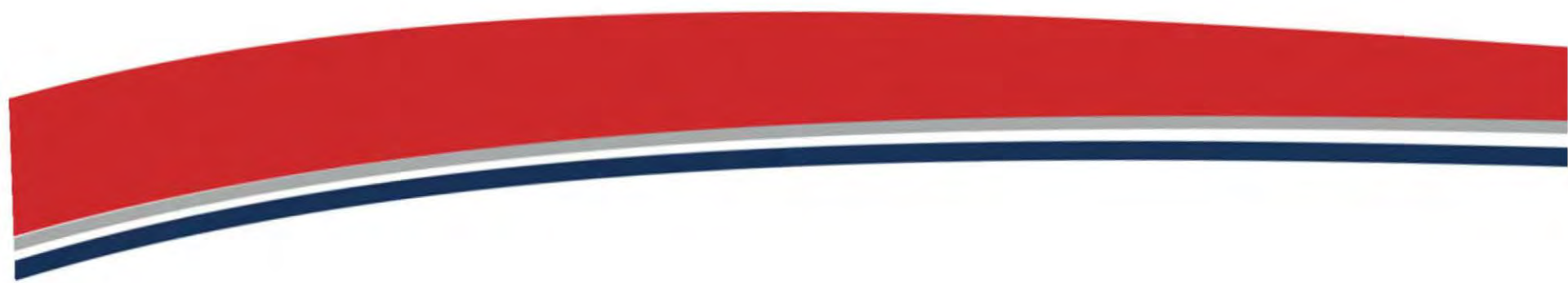


Loading zone accommodation

Illegal loading in bike lane



d. delivers





**DOWNTOWN
DELIVERY**
Symposium

Commerce in the Big City

Richard J. Montanez, PE

Philadelphia 1676 to 1920



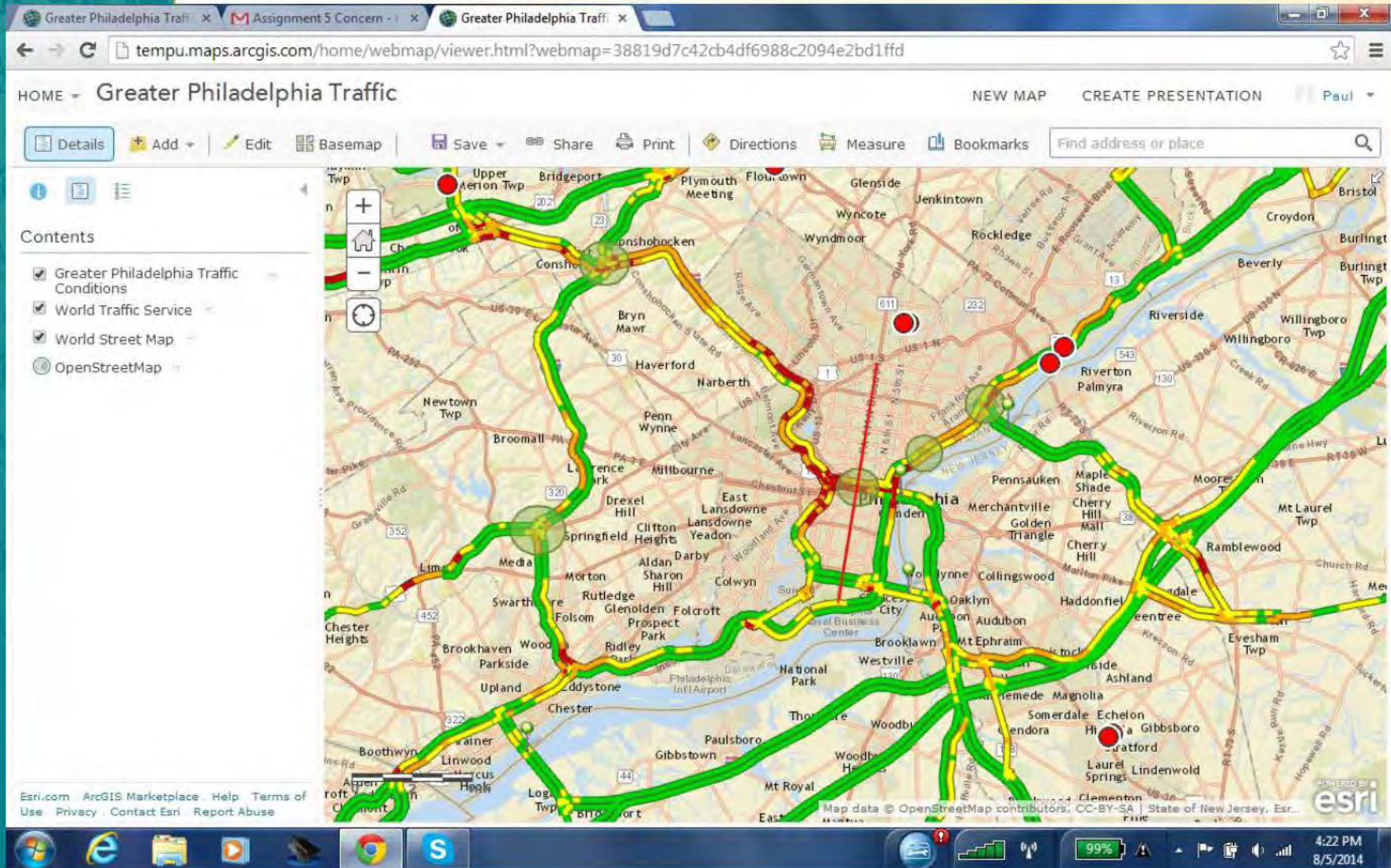
Philadelphia 1676 to 1920



Philadelphia 21st Century



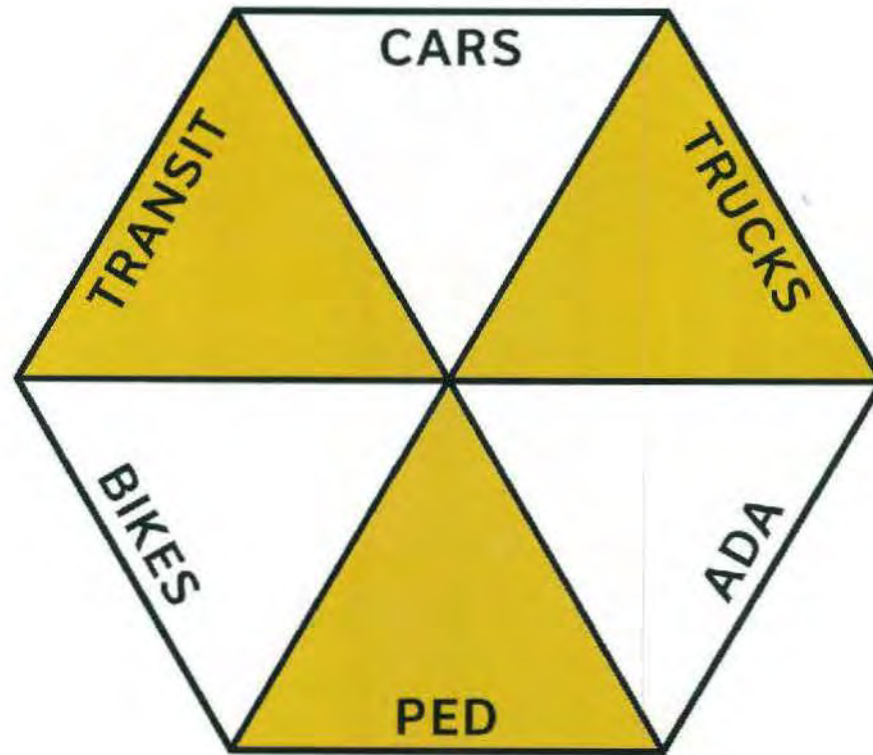
DATA



DATA



Central Business District



Compromise



Everyday Life



Everyday Life



Everyday Life



Everyday Life



Everyday Life



Everyday Life



Everyday Life



Everyday Life



Everyday Life



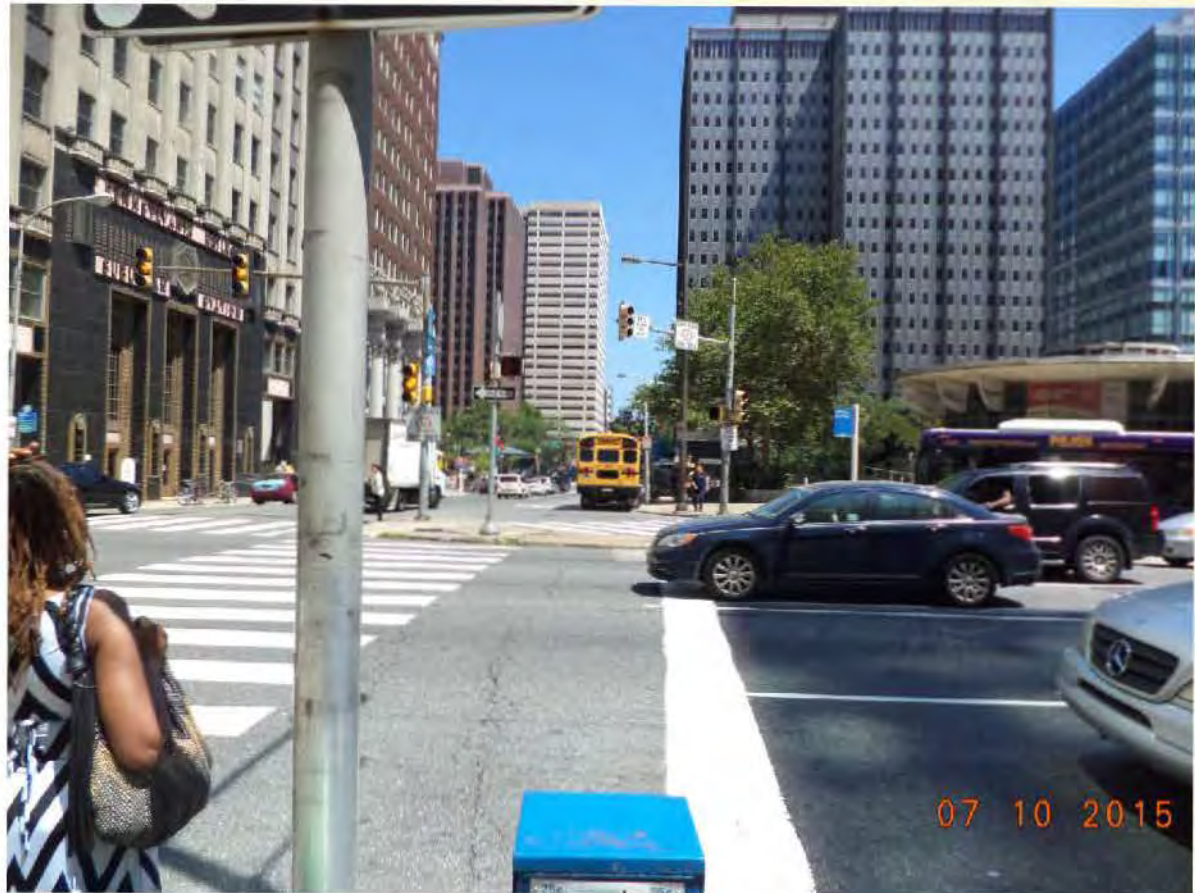
Everyday Life



Everyday Life



Everyday Life



New Opportunities




Papal



Papal



- City life is stressful. Everybody is running around like crazy, stuck in traffic jams trying to make meetings, trying to make ends meet, trying to meet deadlines, trying to get kids to and from activities. There aren't enough hours in the day.
Rebecca Pidgeon



Thank You!

Comments/Questions?

Richard J. Montanez, PE

*Chief Traffic & Street Lighting Engineer
City of Philadelphia*

215-686-5515 | richard.montanez@phila.gov

Downtown Delivery



Richard D. Dickson, Jr.
Deputy Executive Director
Philadelphia Parking Authority

Center City Philadelphia

Competing Demands for Curb Space

- Delivery Vehicles
 - Package Delivery Services
 - Beverage Delivery Vehicles
 - Freight Delivery
 - Moving Trucks
 - Courier Services
- Mass Transit Vehicles
- Para-Transit Vehicles
- Commuter Parking
- Customer Parking
- Residential Parking
- Visitor Parking
- Motorcycle/Scooter Parking
- Bicycle Parking



How do we balance often conflicting demands?

- Establish special purpose zones
- Set aside specific hours for specific purposes
- Regulate length of stay
- Set rates for public parking to encourage turnover

2009 PPA Surveys

- Meter vacancy rate in the core of Center City – 2%.
- Package delivery vehicles were issued over 6,500 parking tickets a month valued at over \$250,000.
- Cheaper to park at a meter all day than at any Center City garage.
- Parking ticket fines were not a credible deterrent to illegal parking.

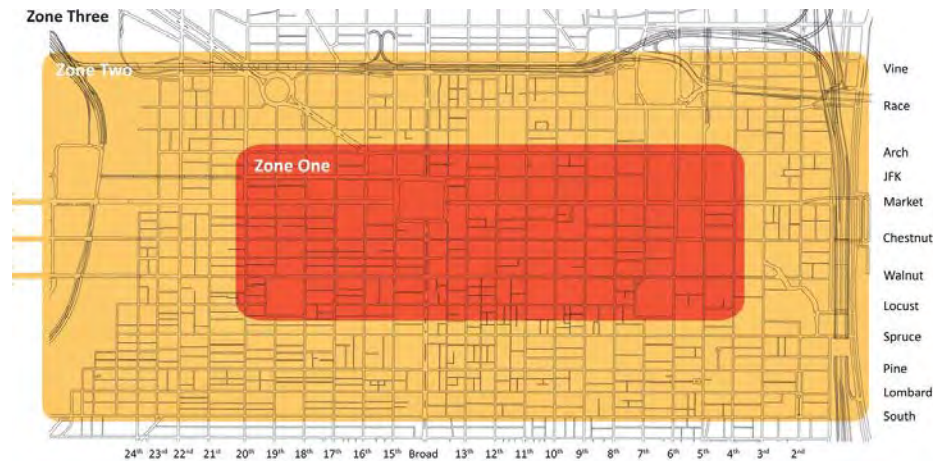


Issues

- Increase Parking Availability.
- Provide Alternatives for Delivery Vehicles.
- Reduce Safety Violations.
- Address non-traditional vehicle needs.

Parking Availability

- Meter rates did not encourage turnover.
- Increase to improve parking availability.
 - Up to \$3 in the core of Center City
 - Up to \$2 in the fringe of Center City
 - Up to \$1.50 in University City
 - No change in neighborhood commercial corridors



New Meter Equipment



Multiple Payment Options



Pay-and-Display



Flexible Rates and Time Limits



Initial Results of Rate Adjustment

- Core Vacancy Rate increased to 17%.
- Fringe Vacancy Rate increased to 46%.
- No need to implement the second phase of the rate increase in the Core.
- Reduced the rate in the fringe to \$1.50 per hour.

By 2012 Further Adjustment

- Center City Fringe and University City meter rate adjusted to \$2.50 per hour
- Increase meter rate in outlying commercial corridors from \$.50 to \$1.00 per hour

Pay-by-Phone

- To be implemented this year
- Pay for meter parking through cell phone
- Permits adding time under certain circumstances

Truck Loading

- Goals
 - Reduce illegal truck parking
 - Open parking on major retail streets for shoppers
 - Facilitate making deliveries
 - Accommodate Different Delivery Types
 - Reduce Competition for Delivery Spaces

Establish New Truck Loading Zones

- 55 New Truck Loading Zones
- Off of Major Retail Streets
- On Numbered or Service Streets
- Away from Retail Fronts



Accommodate Truck Loading on Retail Streets



- Truck Loading Only 6:00 a.m. – 10:00 a.m., Monday through Friday.
- No Truck Parking after 10:00 a.m.



Package Delivery Vehicles



- Serve Multiple Deliveries from a Central Location.
- Remove Package Delivery Vehicles from Truck Loading Zones to Open them for Other Delivery Trucks.
- 36 Package Delivery Zones Established

Extensive Education Campaign

- Meetings with Business Associations.
- Meetings with Delivery Companies.
- Door to Door Distribution of Brochure.
- Two Weeks Warning Notices Before Enforcement.
- Additional Week of Ticketing Before Towing.

Ongoing Monitoring

- Regular Schedule of Parking Surveys
- Feedback From Stake Holders
- Make Adjustments as Appropriate
- Recognize Changing Environment

East Passyunk Avenue Business Improvement District

Make Up of EPABID

- 8 dense blocks of mixed use commercial and residential properties along East Passyunk Avenue from Broad to Federal Streets in South Philadelphia
- 2 blocks of South Broad Street from Snyder to Mifflin
- 300 properties with 200+ businesses, including 35+ food uses
- One large supermarket and 2 pharmacies with loading zones/parking lots







Current Delivery Scenario

- Box truck to trailer
- Early morning til late afternoon, most don't know when they will arrive
- Current times are workable as they are used to it, would prefer a tighter schedule, split between morning and afternoon
- Late night deliveries would not be feasible for any of the businesses surveyed
- Loading is much easier if a business is at a corner



Challenges & Solutions:



- Sign and sidewalk damage
- Parking/traffic when busy
- Address decorative banner collisions by reduction of size of banner and placement
- Pedestrian signs mounted inside
- Offer façade grants for sidewalk repairs





Directional Signage Challenges:

- Cost \$800-\$1,000 each, more with a pole mount
- Require Streets Department approval, which takes time
- Must be at this height
- Once they are turned they must be professionally turned back
- If they are bent at all they cannot be fixed



A Success Story:

- Began a planter project for the 2000 block of South Broad Street
- Urban Jungle built a test model of a gabion planter for graffiti/vehicular incidents
- Placed at Walgreens for 5 months, site selected because trucks partially parked on the sidewalk
- Trucks now park in the street!





**DOWNTOWN
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Symposium

CENTRAL DISTRICT

Philadelphia, PA

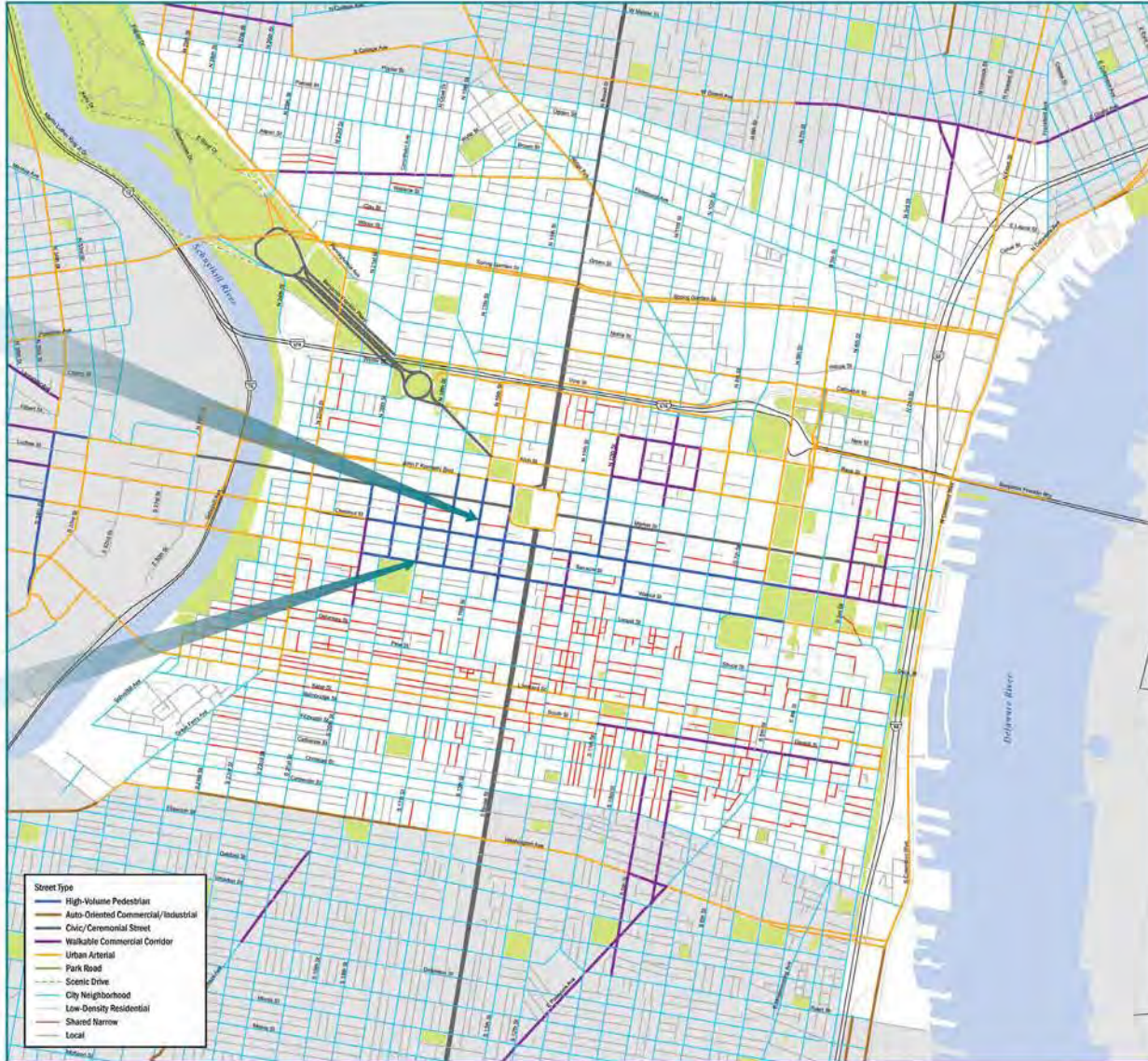
BOARD #1



16th Street between Chestnut Street and Market Street looking west



18th Street and Walnut Street looking west



DISTRICT SNAPSHOT:

About the Central District:

- As the metropolitan center of the Delaware Valley region, the Central District has over 300 years of history, infrastructure, culture, innovation, and urbanity to tout.
- Four broad assets – the Central Business District, Culture & Tourism, Transportation, and Neighborhoods – form the backbone of not only development but also growth for the district and the city.

FEATURED PHILADELPHIA COMPLETE STREET TYPE:

High-volume Pedestrian: Chestnut Street/Walnut Street

- These streets are important pedestrian destinations and connections in high-density commercial, residential, and mixed use neighborhoods.
- To manage the curb, the *Complete Streets* guide prioritizes on-street parking and the allocation for loading zones, and recommends alternative uses for parking lanes and the inclusion of lay-by lanes.

DELIVERY INITIATIVES TO CONSIDER:

- Enhanced Building Codes
- Low Emission Zones
- Urban Consolidation Centers
- Mode Shift Programs
- Other?

Information about the district modified from the Philadelphia City Planning Commission; about the street-type modified from Philadelphia Streets' "Complete Streets Guidebook"





**DOWNTOWN
DELIVERY**
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LOWER NORTHEAST DISTRICT

Philadelphia, PA

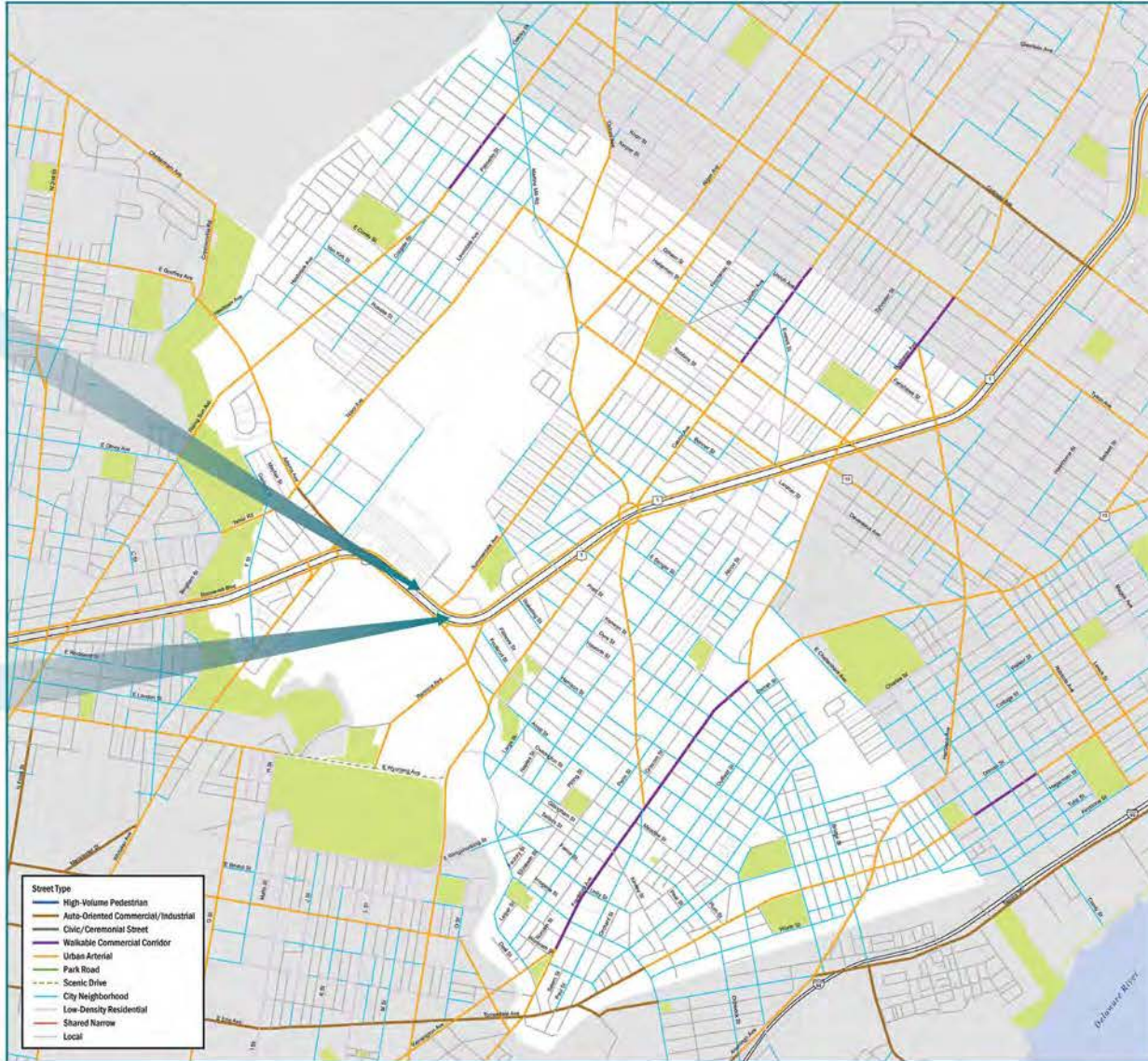
BOARD #2



Roosevelt Boulevard at Adams Street/
Adams Avenue from above



Roosevelt Boulevard at Tower Boulevard
looking southwest



DISTRICT SNAPSHOT:

About the Lower Northeast District:

- The Lower Northeast is the third fastest growing district in the city.
- Its stable and affordable housing stock has made the district attractive to young families and immigrant populations.
- Housing options range from detached houses to apartments above stores on walkable commercial corridors.

FEATURED PHILADELPHIA COMPLETE STREET TYPE:

Urban Arterial:

Roosevelt Boulevard

- Urban Arterials are major and minor arterials that carry high through traffic volumes.
- To manage the curb, the *Complete Streets* guide prioritizes on-street parking and recommends alternative uses for parking lanes and the inclusion of lay-by lanes.

DELIVERY INITIATIVES TO CONSIDER:

- Acceleration/Deceleration Lanes
- Truck Routes
- Road Pricing/Incentives
- Real-Time Information Systems
- Other?

Information about the district modified from the Philadelphia City Planning Commission; about the street-type modified from Philadelphia Streets' "Complete Streets Guidebook."





**DOWNTOWN
DELIVERY**
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LOWER SOUTHWEST DISTRICT

Philadelphia, PA

BOARD #3



Essington Avenue between 67th and 70th Streets looking south



Essington Avenue between 67th and 70th Streets looking south



DISTRICT SNAPSHOT:

About the Lower Southwest District:

- The Lower Southwest contains large residential areas, a major industrial district and the Philadelphia International Airport.
- Major industries include Eastwick Industrial Park, the United States Postal Service, and oil refineries.
- The Philadelphia Airport Auto Mall is adjacent to the industrial park.

FEATURED PHILADELPHIA COMPLETE STREET TYPE:

Auto-Oriented Commercial/Industrial: Essington Avenue

- These streets are characterized by an auto-oriented development pattern with buildings set back significantly from the street, generally with parking lots in front of commercial uses.
- To manage the curb, the *Complete Streets* recommends alternative uses for parking lanes.

DELIVERY INITIATIVES TO CONSIDER:

- Freight Cluster Development
- Upgrade Parking Areas and Loading Docks
- Truck Stops/Parking Outside of Metropolitan Area
- Restrict Multi-Use Lanes
- Other?

Information about the district modified from the Philadelphia City Planning Commission; about the street-type modified from Philadelphia Streets' "Complete Streets Guidebook."





**DOWNTOWN
DELIVERY**
Symposium

SOUTH DISTRICT

Philadelphia, PA

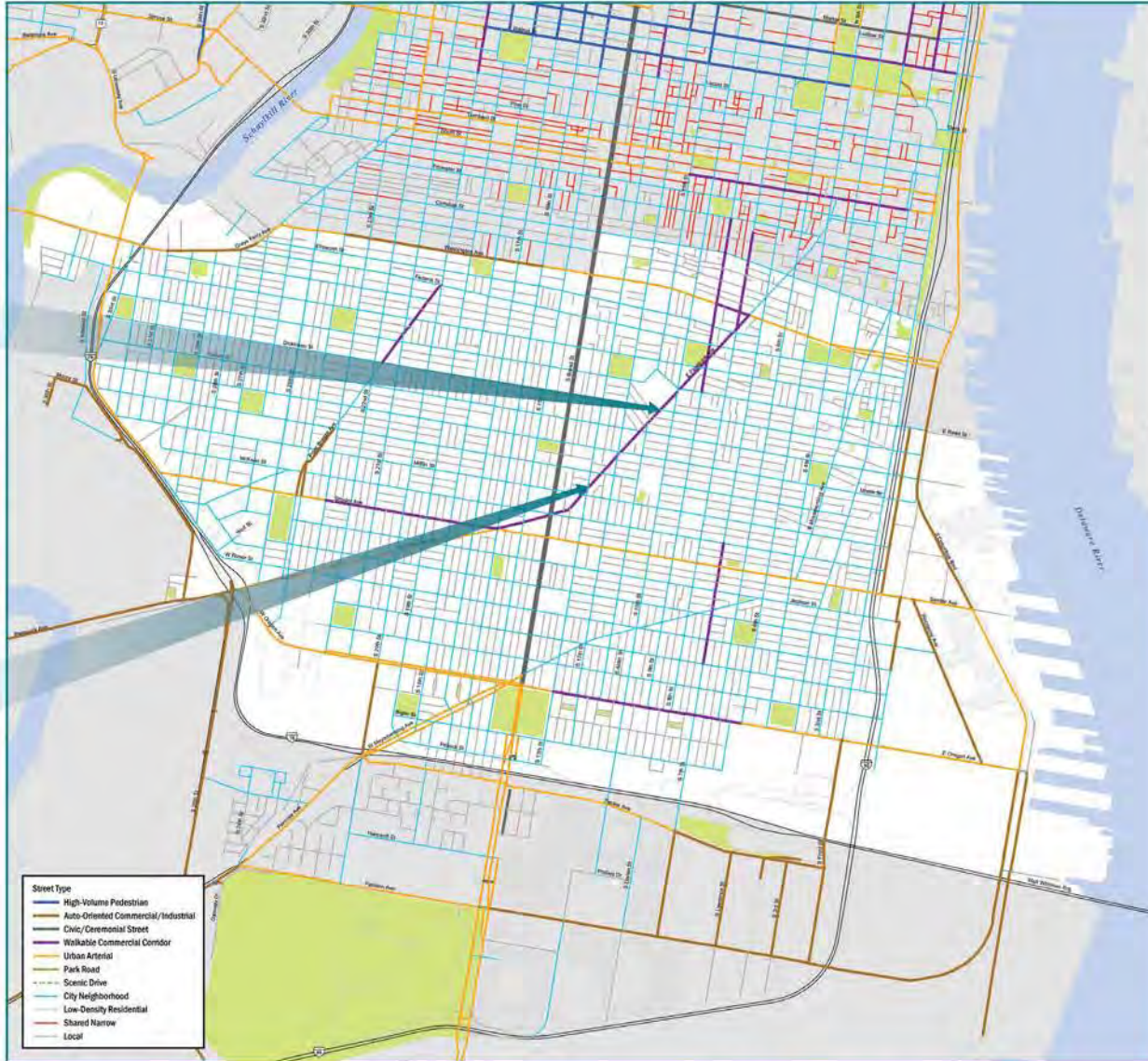
BOARD #4



East Passyunk Avenue and Dickinson Street
looking northeast



East Passyunk Avenue at 13th Street and Sigel Street
looking northeast



DISTRICT SNAPSHOT:

About the South District:

- South District is one of the oldest districts in the city of Philadelphia.
- Primarily residential in character, South Philadelphia is also host to many of the trendiest places in the city to dine and shop.
- With its wealth of infrastructure and convenient location, South Philadelphia is well poised for its future as a dynamic and thriving urban district.

FEATURED PHILADELPHIA COMPLETE STREET TYPE:

Walkable Commercial Corridor:

East Passyunk Avenue

- These streets are active commercial corridors with pedestrian-friendly physical development patterns.
- To manage the curb, the *Complete Streets* guide prioritizes on-street parking and the allocation for loading zones, and recommends alternative uses for parking lanes.

DELIVERY INITIATIVES TO CONSIDER:

- Removal of Geometric Constraints at Intersections
- Low-Noise Delivery Programs/Regulations
- Pickups/Deliveries to Alternate Locations
- Receiver-Led Delivery Consolidation Programs
- Other?

Information about the district modified from the Philadelphia City Planning Commission; about the street-type modified from Philadelphia Streets' "Complete Streets Guidebook."

