

Last Mile Freight Study

Overview, Toolbox, and Recommendations

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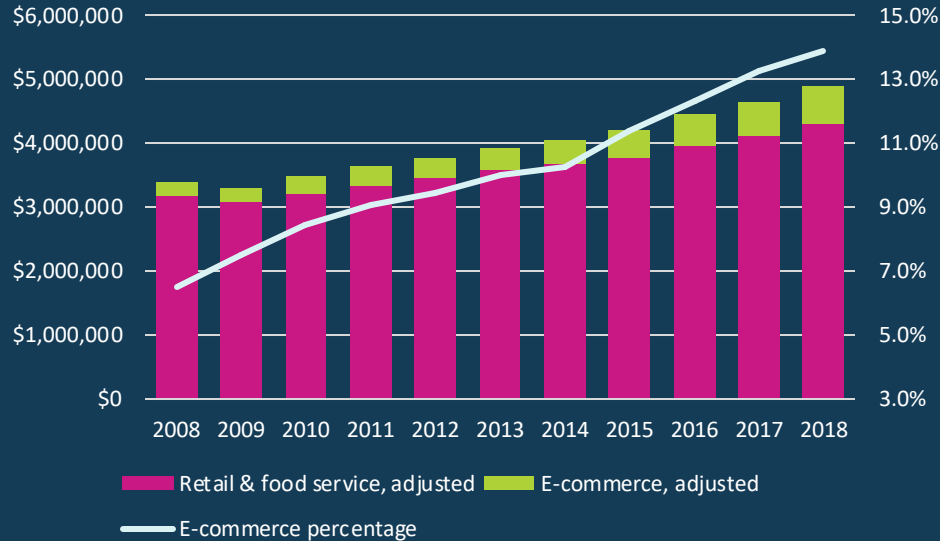
October 17, 2019



Key Trends: E-Commerce, TNCs, Store to Door

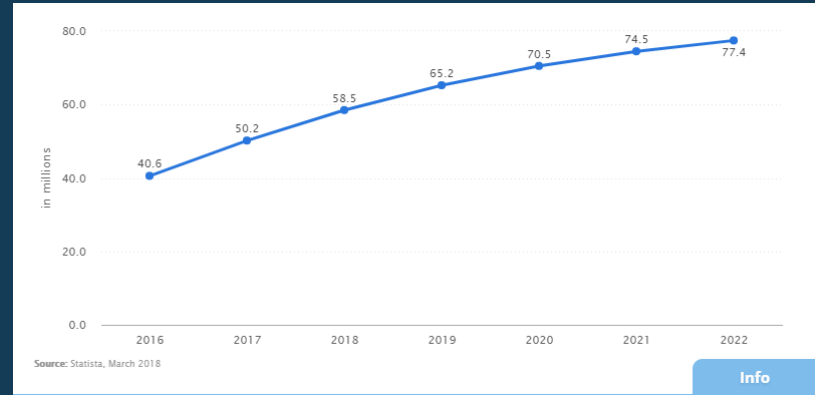


E-Commerce v. In-Store Retail Sales



Source: U.S. Census Bureau: Monthly Retail Trade & Quarterly E-Commerce Reports

Expected Growth in U.S. Ride Share Customers



Source: Statista

Research Goal: Improve understanding of last-mile delivery conditions, challenges, and solutions as applied to different area types within the region

- Understand the challenges and needs from a variety of users
- Quantify delivery issues and conditions
- Balance conflicting demands for street space
- Develop strategies appropriate for different areas
- Identify pilot projects for delivery improvements
- Have a stakeholder-driven process

Study Elements

- Citywide data analysis and screening
 - Definition of typologies
- Original data collection
- Stakeholder input
- Solutions
 - Literature Review
 - Case study recommendations
 - Pilot project concepts
 - Toolbox of strategies
- Final products and outreach



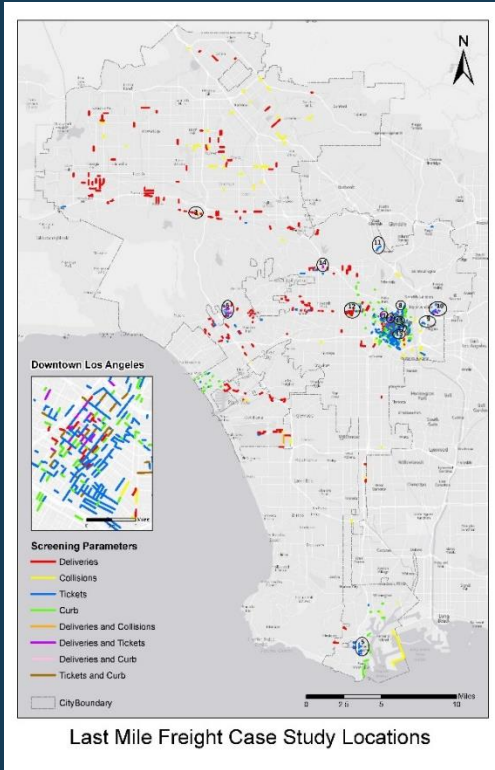
Stakeholder Input

- Project Advisory Committee (PAC)
- Delivery/receiver interviews
- Ongoing input to interpret data and guide approach
- Pilot project concept collaboration



Citywide Data Analysis and Screening

- Defined existing conditions
 - Screening parameters
 - Street typologies
- Identified 17 case study locations
- 12 case studies had original data collected

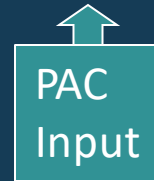


90,000 Blocks

605 Screened Blocks

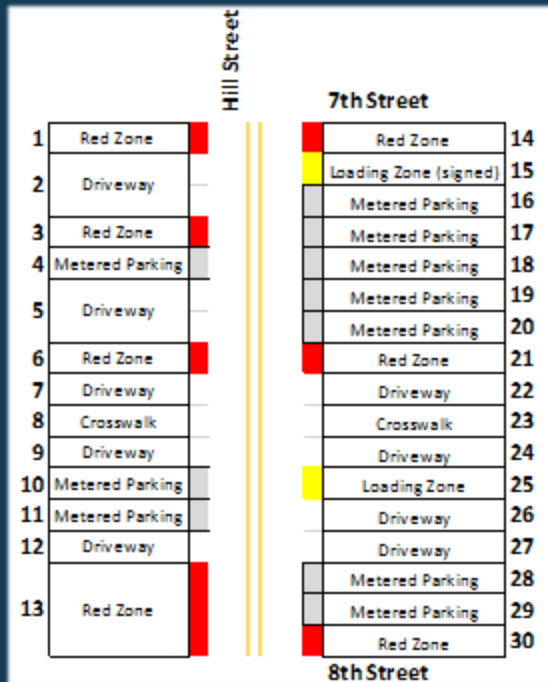
(47 blocks)

17 Case Studies



Field Data Collection

Case Study block (Location Key)



Curb Utilization



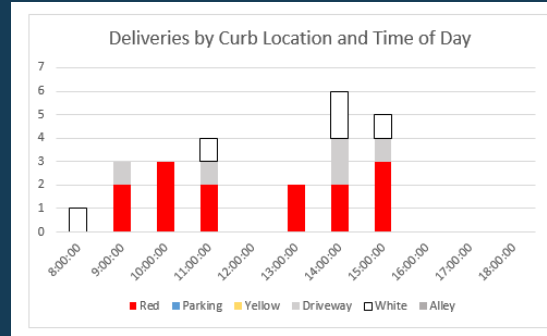
Curb Location	Time In/Out	Addr Location	Vehicle Type	Activity
Identifier	Fill in	Blank if at Curb	Car/Personal Vehicle	Parked
		In Driveway	TNC (Uber/Lyft)	Waiting
		Used Driveway to Park	Taxi	Loading Passengers
		On Curb	Delivery Truck	Parcel Deliveries
		In Travel Lane	Postal Truck	Collecting Mail
		In Bus Lane	Service Truck/Van	Other pick-up
		In Bike Lane	Food Truck	Other Deliveries (e.g. linen)
		Alley	Large Truck (18-wheeler)	Bulk Food Delivery
		Other	Other Truck/Van	Food Delivery Service
			Motorcycle	Utility Service
			Bus	Other
			Bicycle	
			Pedestrian	

Tier 1 - Case Study Recommendations

Case Study #1: Westlake: Wilshire Blvd., Bixel St. Lucas Ave., Witmer St.

Case Study Area Characteristics

Blocks: 12
 Parking Meters: 97
 Annual Truck Tickets (2014): 648 (45 per block)
 UPS/FedEx/USPS Locations: 4
 Bus Stops: 8
 Truck-Related Collisions: 0
 Estimated Daily Deliveries: 877 total; 73 per block
 Average Daily Truck Trips per block: 276

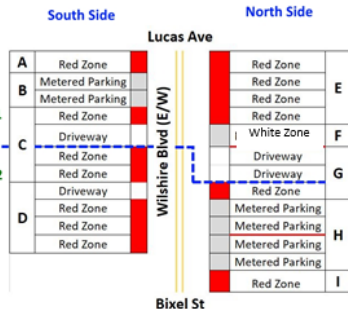


Recommendation 1A.1 Convert White Zone to Yellow Commercial Loading Zone (F) Source: Google Streetview



Recommendation 1A.2 Install Yellow Commercial Loading Zone (C) Source: Google Streetview

Data Collection - Wilshire Blvd Between Bixel and Lucas



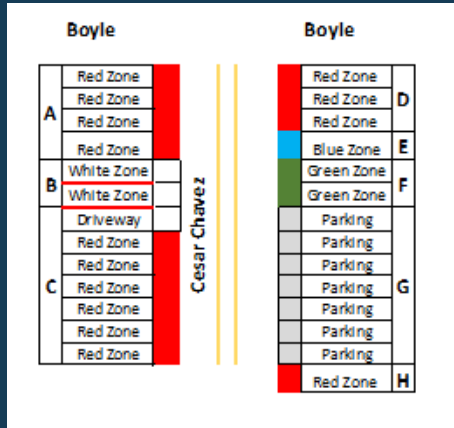
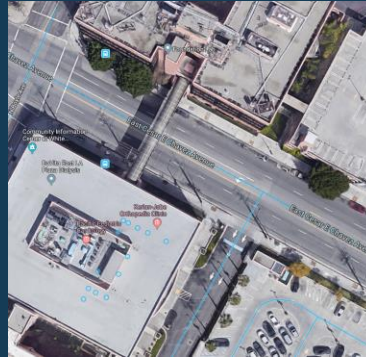
Location		Parked		Passenger		Delivery		Annual Citations	
		#	Avg Duration	#	Avg Duration	#	Avg Duration	Red Zone	White Zone
A	Red	1	0:04:59	0		0		1	0
B	Parking	10	1:21:41	0		0		2	0
C	Red	8	0:02:42	1	0:00:15	2	0:11:22	35	0
D	Red	35	0:02:49	65	0:00:34	4	0:16:55	19	0
E	Red	13	0:02:44	58	0:00:55	8	0:14:34	11	0
F	White	13	0:09:43	14	0:02:40	5	0:42:14	38	69
G	Driveway	15	0:04:45	28	0:01:38	6	0:08:27	6	0
H	Parking	27	0:44:19	0		0		0	0
I	Red	9	0:10:24	5	0:00:33	1	0:42:40	54	0
Total		132	0:18:42	171	0:01:02	26	0:19:40	165	69

Tier 1 – Case Study Recommendations

Case Study # 9: Boyle Heights: Cesar Chavez Blvd

Case Study Area Characteristics

- Blocks: 3
- Parking Meters: 6
- Annual Truck Tickets (2014): 242 (81 per block)
- UPS/FedEx/USPS Locations: 0
- Bus Stops: 5
- Truck-Related Collisions: 0
- Estimated Daily Deliveries: 222 total; 74 per block
- Average Daily Truck Trips per block: 111



Location	Parked		Passenger		Delivery		Total Annual Citations
	#	Avg Duration	#	Avg Duration	#	Avg Duration	
A Red	5	0:01:18	92	0:00:39	1	0:20:40	112
B White	37	0:06:56	52	0:00:58	7	0:07:21	132
C Red	0		10	0:00:16	0		2
D Red	83	0:01:58	172	0:01:01	0		62
E Blue	18	0:32:13	33	0:01:06	0		0
F Green	15	0:42:06	20	1:22:22	2	0:01:10	0
G Parking	38	0:42:50	11	0:08:16	2	0:03:53	0
H Red	5	0:01:18	92	0:00:39	1	0:20:40	31
Total	196	0:17:26	390	0:05:18	12	0:06:51	339

Last Mile Delivery Strategy Categories

Curb Area

1. Curb Loading Areas
2. Manage Curb Demand
3. Shared Space
4. Operating Hours
5. Restricted Locations

Shippers and Receivers

1. Delivery Consolidation
2. Building/ Parking Improvements
3. Vehicle Options

Application / Implementation

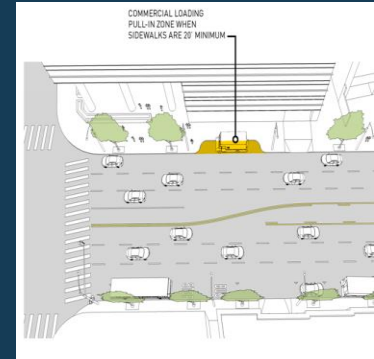
1. Enforcement
2. Technology
3. Education

Tier 2 - Toolbox of Strategies

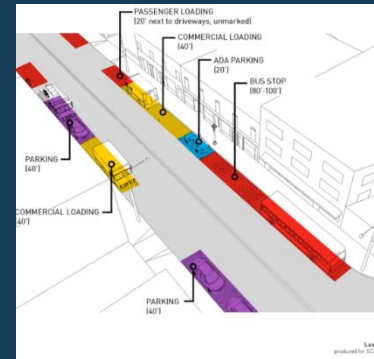
	Curb Area					Deliverers and Receivers			Administration and Application			
Inadequate Curb Loading												
Excessive ticketing												
Safety of Delivery personnel												
Parking/Loading in Red Zones												
Safety of All Modes												
Inconvenient Delivery												
Passenger Loading												
Inadequate Building Loading												
Missed Deliveries												
Truck Touring												
Lack of clarity in Curb Space												
Congested sidewalk areas												
Bicycle lane infractions												
Emissions from Deliveries												
Noise from Deliveries												
Security of Deliveries												

Key:

Level of Correlation/ Effectiveness	
High	
Medium	
Low	



Loading Zone Enhancements



Tier 3 - Pilot Project Concepts



1. **Delivery Consolidation**
2. Cargo eBike Delivery Pilot
3. **LA Express Park Commercial Module/Permitted Parking**
4. Off Peak Delivery Program
5. **Common Carrier Lockers**
6. Code the Curb
7. **Integration of Postal Service Guidelines into Building Code**
8. Incorporating TNC use into redzone
9. **Revising commercial loading zone restrictions**

Lessons Learned

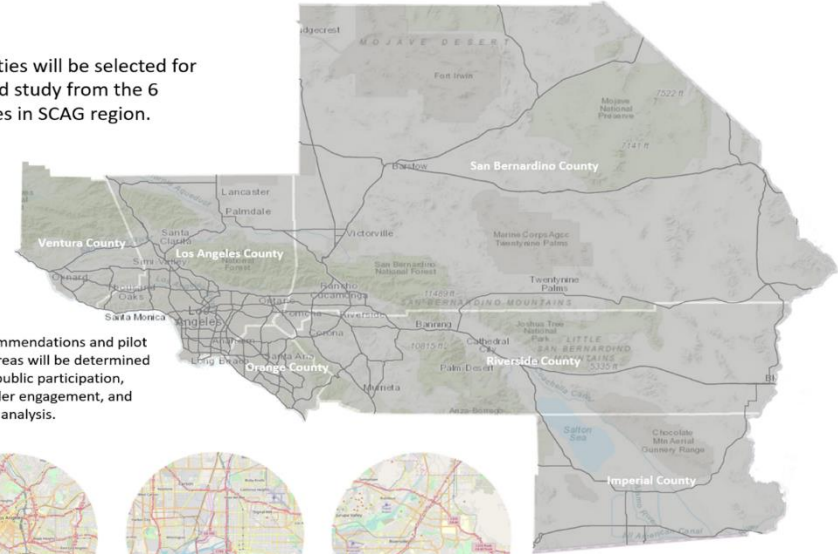
- Prioritize: Where does freight fit in with other priorities?
- Optimize: Use data to demonstrate use and need
- Collaborate: Work across departments and sectors to reach goals



Next Steps

- Curb Space Management Study
 - Build from LMFS
 - Expand analysis coverage
 - Consider all modes/uses
 - Enhance data collection framework
 - Further support pilot projects & implementation strategies
- Pilot Project Development
- Education and Outreach

8-12 cities will be selected for detailed study from the 6 counties in SCAG region.



Site recommendations and pilot project areas will be determined through public participation, stakeholder engagement, and technical analysis.



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