



Transforming Logan Square Using Big Data and Creative Complete Streets Solutions

ITE Midwestern District Meeting
June 20, 2019

CDOT
CHICAGO DEPARTMENT
OF TRANSPORTATION

JACOBS

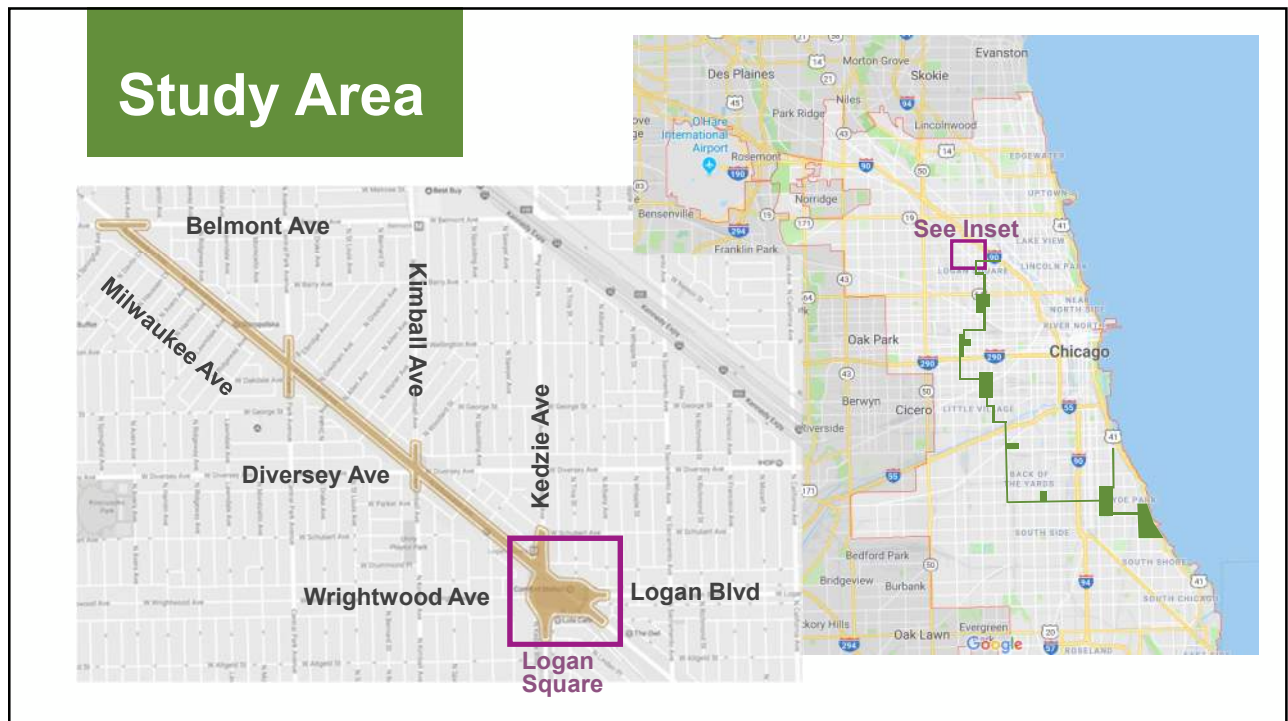
Outline

Existing Conditions

Historical Conditions

Concept Development Based O/D Data

Recommendation







Existing Conditions



Existing Conditions



Existing Conditions

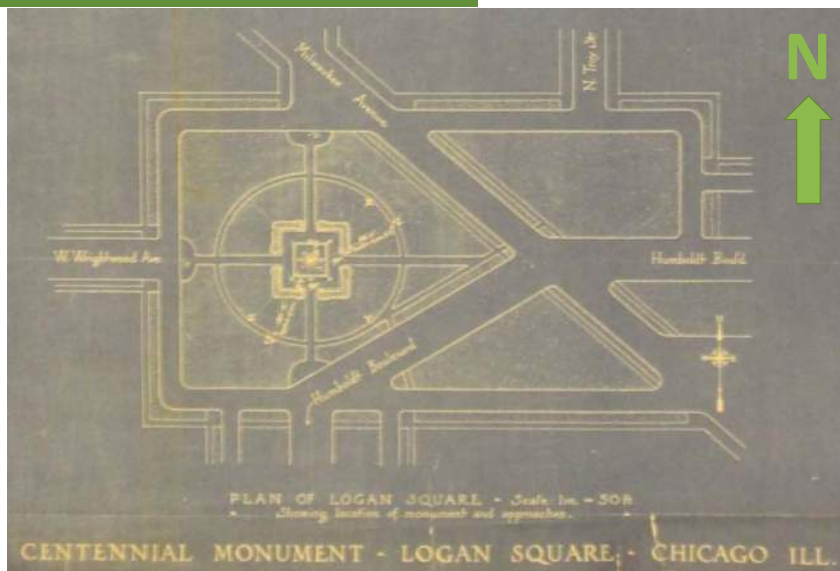


Existing Conditions





Original Layout



Original Layout

Humboldt Blvd going through Logan Square - looking east



Milwaukee Ave looking southeast



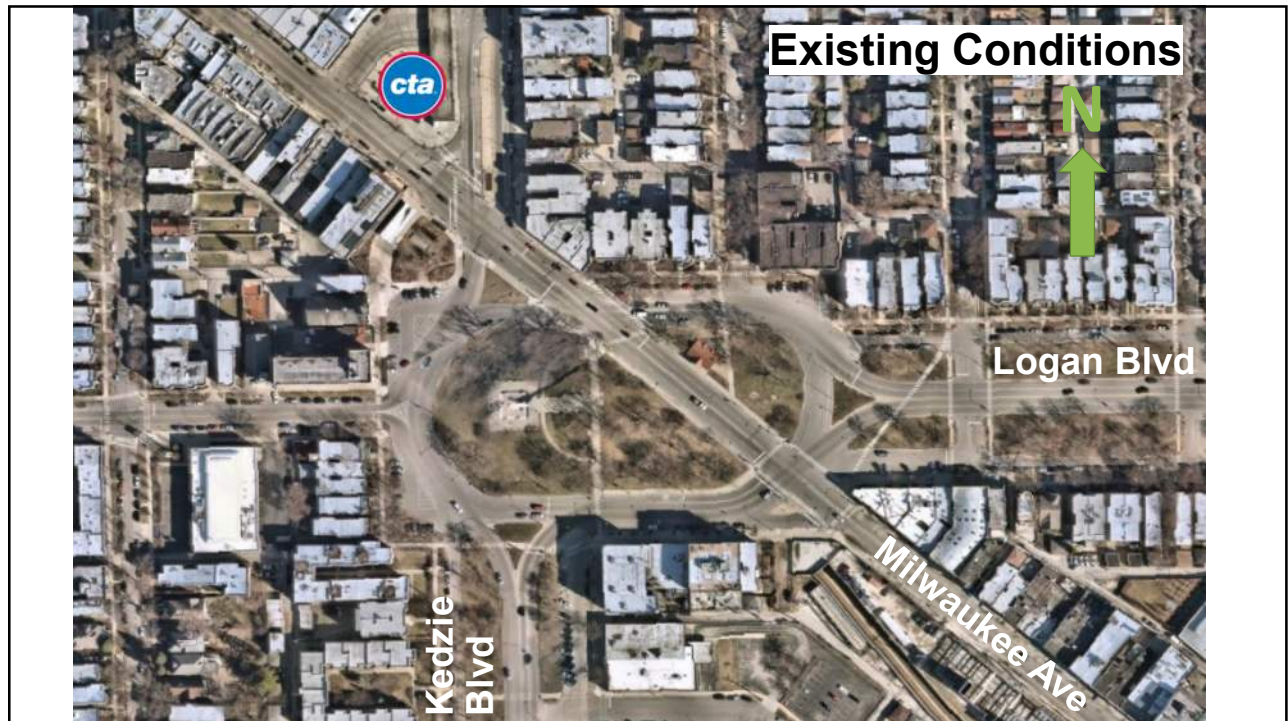
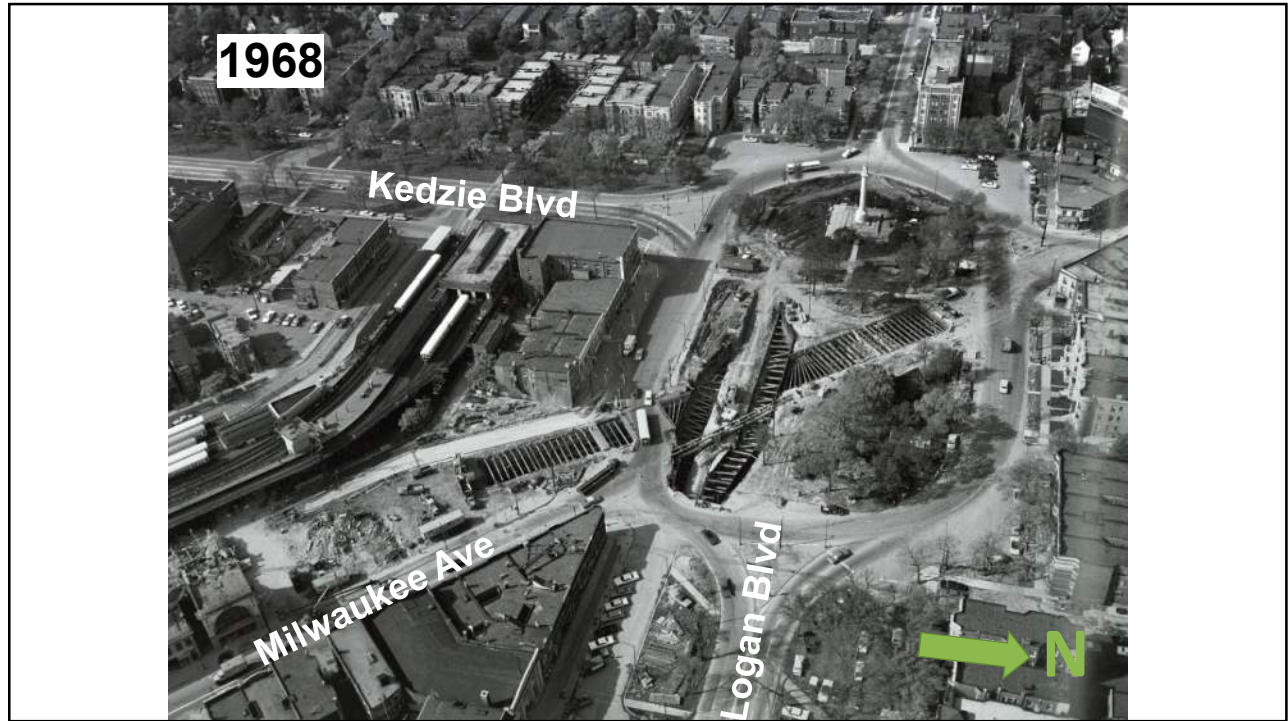
1929

N

Logan Blvd

Milwaukee Ave

Kedzie Blvd





Public Involvement

MEETINGS

Project Study Group 1 June 16, 2017

Public Meeting 1 August 30, 2017

Project Study Group 2 October 25, 2017

Public Meeting 2 January 30, 2018

Project Study Group 3 November 1, 2018

Public Meeting 3 December 4, 2018



Public Involvement



Improve traffic safety.



Create more useful public and green space.



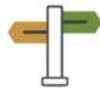
Improve pedestrian crossings and sidewalks.



Preserve neighborhood identity and historic features.



Create a **multimodal corridor** that considers and balances the needs of residents, businesses and users.



Create **easier access and connectivity to the Square and within the neighborhood.**



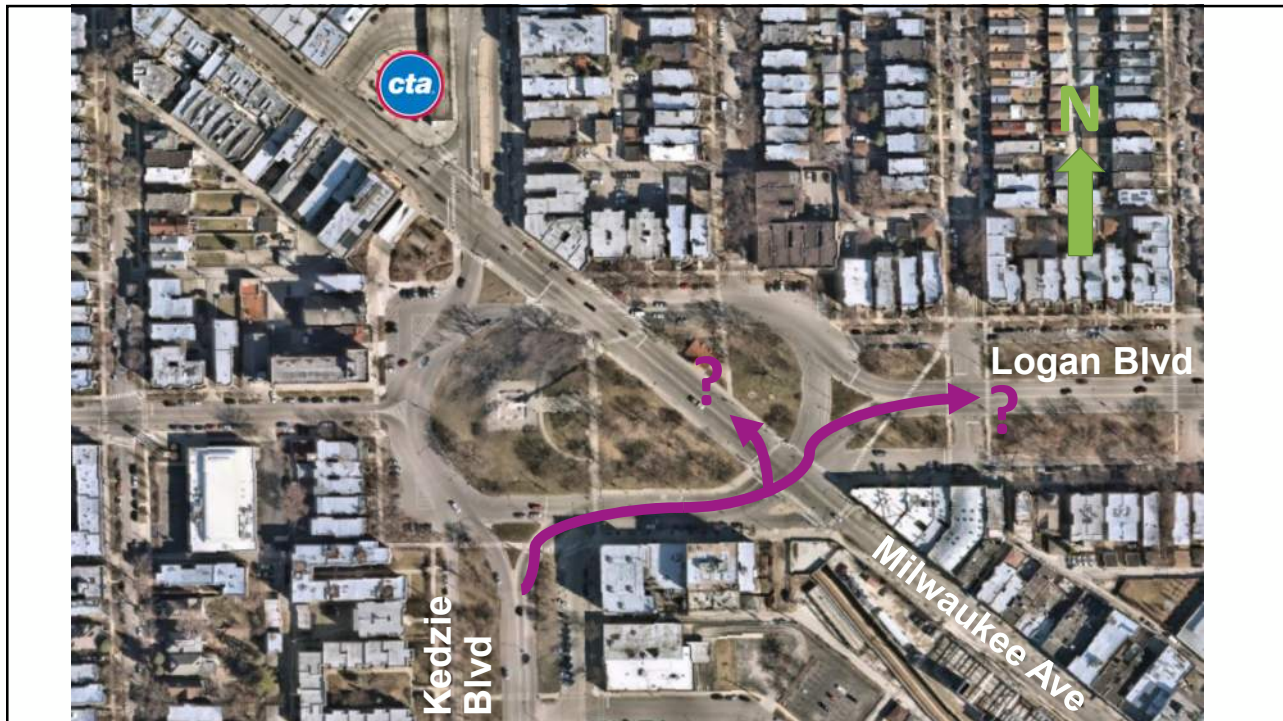
Control **traffic speeds, improve intersection flow, rebuild traffic signals and add more traffic signs.**



Integrate **native plants, trees, lighting and outdoor seating.**



Concept Development



StreetLight Data

STREETLIGHT DATA
Big Data for Mobility

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StreetLight InSight[®] Metrics

The *StreetLight InSight* platform delivers Metrics derived from Big Data that describe travel behavior. It's a cloud-based application, so you can design and run transportation analyses on your computer until you have the answers need. Discover the Metrics currently available via *StreetLight InSight* below.

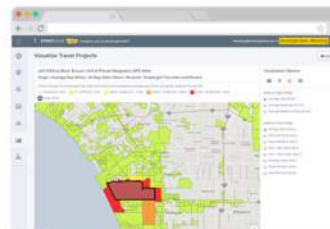
Origin-Destination Analysis

StreetLight InSight Origin-Destination (O-D) Analyses describe trips between any "Zones" that you're interested in. A "Zone" is our term for the geographies that *StreetLight InSight* users analyze. A Zone can be virtually any size, from a highway off-ramp to an entire state. This analysis provides the following Metrics:

- O-D matrices of relative trip volumes between each pair
- Average travel time of trips between O-D pairs

Find out how planners in Napa Valley used these Metrics to answer key questions such as "What are the origins of external trips?" - and how the answers impacted their Countywide Transportation Plan.

[READ THE CASE STUDY](#)



This *StreetLight InSight* heat map visualizes a segment of an origin-destination matrix of LAX Airport to census block groups in Los Angeles.

O-D Study



AM Peak Data

6 AM – 9 AM, Monday-Friday

PM Peak Data

3 PM – 7 PM, Monday-Thursday

O-D Study

	A	C	G	J	K	L	M	N	O
	Device Type	Origin Zone Name	Destination Zone Name	Day Type	Day Part	O-D Traffic (StL Index)	Origin Zone Traffic (StL Index)	Destination Zone Traffic (StL Index)	Avg Trip Duration (sec)
1	Personal	Kedzie Ave - North	Kedzie Ave - North	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	1496	1496	1496	0
2	Personal	Kedzie Ave - North	Kedzie Blvd - South	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	482	1496	2223	68
3	Personal	Kedzie Ave - North	Logan Blvd - East	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	62	1496	2151	123
4	Personal	Kedzie Ave - North	Milwaukee Ave - Northwest	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	36	1496	2573	116
5	Personal	Kedzie Ave - North	Milwaukee Ave - Southeast	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	163	1496	2641	89
6	Personal	Kedzie Ave - North	Wrightwood Ave - West	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	53	1496	1047	71
7	Personal	Kedzie Blvd - South	Kedzie Ave - North	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	326	2223	1496	81
8	Personal	Kedzie Blvd - South	Kedzie Blvd - South	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	2223	2223	2223	0
9	Personal	Kedzie Blvd - South	Logan Blvd - East	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	740	2223	2151	51
10	Personal	Kedzie Blvd - South	Milwaukee Ave - Northwest	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	110	2223	2573	114
11	Personal	Kedzie Blvd - South	Milwaukee Ave - Southeast	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	27	2223	2641	87
12	Personal	Kedzie Blvd - South	Wrightwood Ave - West	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	6	2223	1047	362
13	Personal	Logan Blvd - East	Kedzie Ave - North	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	43	2151	1496	79
14	Personal	Logan Blvd - East	Kedzie Blvd - South	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	189	2151	2223	73
15	Personal	Logan Blvd - East	Logan Blvd - East	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	2151	2151	2151	0
16	Personal	Logan Blvd - East	Milwaukee Ave - Northwest	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	86	2151	2573	100
17	Personal	Logan Blvd - East	Milwaukee Ave - Southeast	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	20	2151	2641	58
18	Personal	Logan Blvd - East	Wrightwood Ave - West	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	118	2151	1047	76
19	Personal	Milwaukee Ave - Northwest	Kedzie Ave - North	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	14	2573	1496	64
20	Personal	Milwaukee Ave - Northwest	Kedzie Blvd - South	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	153	2573	2223	71
21	Personal	Milwaukee Ave - Northwest	Logan Blvd - East	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	213	2573	2151	100
22	Personal	Milwaukee Ave - Northwest	Milwaukee Ave - Northwest	1: Average Weekday (M-F)	1: Peak AM (6am-9am)	2573	2573	2573	0

O-D Study

StL Index - AM Trip Table		To							
From	Kedzie (N)	Milwaukee (NW)	Wrightwood (W)	Kedzie (S)	Milwaukee (SE)	Logan (E)	Origin SUM	Destination SUM	
Kedzie (North Leg)		36	53	482	163	62	796	547	
Milwaukee (North Leg)	14		22	153	1050	213	1452	1005	
Wrightwood (West Leg)	11	22		70	137	505	745	315	
Kedzie (South Leg)	326	110	6		27	740	1209	913	
Milwaukee (South Leg)	153	751	116	19		96	1135	1397	
Logan (East Leg)	43	86	118	189	20		456	1616	
	SUM	547	1005	315	913	1397	1616		

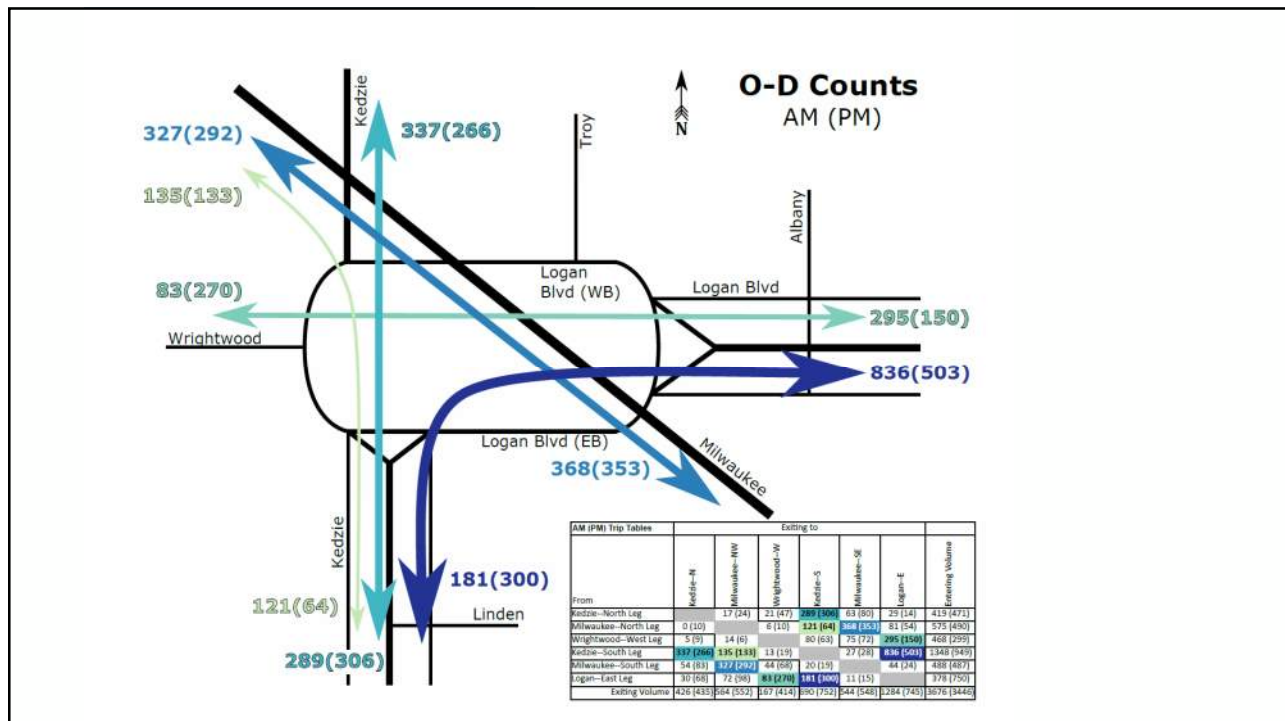
O-D Study

AM O-D Trip Percentages - Personal Vehicles - by origin		To						
From	Kedzie (N)	Milwaukee (NW)	Wrightwood (W)	Kedzie (S)	Milwaukee (SE)	Logan (E)	Origin SUM	
Kedzie (North Leg)		4.5%	6.7%	60.6%	20.5%	7.8%	100%	
Milwaukee (North Leg)	1.0%		1.5%	10.5%	72.3%	14.7%	100%	
Wrightwood (West Leg)	1.5%	3.0%		9.4%	18.4%	67.8%	100%	
Kedzie (South Leg)	27.0%	9.1%	0.5%		2.2%	61.2%	100%	
Milwaukee (South Leg)	13.5%	66.2%	10.2%	1.7%		8.5%	100%	
Logan (East Leg)	9.4%	18.9%	25.9%	41.4%	4.4%		100%	

O-D Study

**AM Trip Table (7:15 AM - 8:15 AM)
Based on StreetLight Data**

From	Exiting to					
	Kedzie (N)	Milwaukee (NW)	Wrightwood (W)	Kedzie (S)	Milwaukee (SE)	Logan (E)
Kedzie (North Leg)		21	29	252	86	32
Milwaukee (North Leg)	6		9	60	418	82
Wrightwood (West Leg)	7	14		44	86	317
Kedzie (South Leg)	366	124	7		30	820
Milwaukee (South Leg)	66	325	48	9		40
Logan (East Leg)	36	72	97	156	17	
Exiting Volume (StreetLight)	481	556	189	521	637	1292
	13%	15%	5%	14%	17%	35%



CONCEPT 1
Spot Improvements

Maintains Kedzie Ave. east of the CTA terminal, maintains Milwaukee Ave. through the Square, and maintains the one-way traffic configuration around the Square.



IMPROVEMENTS

- ① Road diet on Milwaukee Ave
- ② New bike lanes
- ③ New signal and crosswalk
- ④ Close slip lane

CONCEPT 2
Traffic Oval

Realigns Kedzie Ave. west of the CTA station to create a new public space to the east. Milwaukee Ave. is also re-routed around the Square to create one larger public space. Traffic continues its one-way configuration around the Square.



IMPROVEMENTS

- ① Realign Kedzie Ave
- ② Reroute Milwaukee Ave
- ③ New signal and crosswalk

CONCEPT 2
Traffic Oval

Realigns Kedzie Ave. west of the CTA station to create a new public space to the east. Milwaukee Ave. is also re-routed around the Square to create one larger public space. Traffic continues its one-way configuration around the Square.



CONCEPT 3
Two Way, Trip Match

Maintains Kedzie Ave. east of the CTA terminal and Milwaukee Ave. through the Square. Streets on the west and south sides of the Square are converted to two-way traffic and the roadway on the north side of the Square is converted to park area.



CONCEPT 4

Two Way, The Bend

Realigns Kedzie Ave. west of the CTA station to create a new public space to the east. The concept “bends” Milwaukee Ave. around the north and east sides of the Square to create one larger public space. The streets on the west and south sides of the Square to are converted to two-way traffic.



What we heard

Reroute

Milwaukee Ave. to create a larger public space within the Square.

Realign

Kedzie Ave. to create new public space to the east.

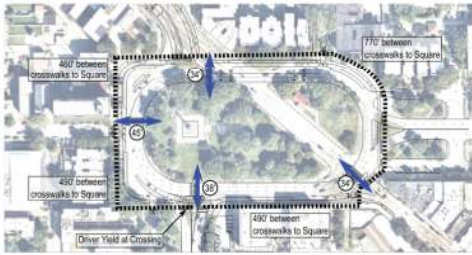
Create

easier pedestrian access to the Square.

Questions

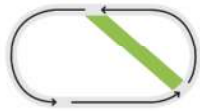
about how two-way traffic would operate.

Concept 2 : Traffic Oval



4 Crosswalks to Logan Square	770' Maximum distance between crosswalks	38' Average crosswalk length
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EVENT FLEXIBILITY



This concept re-routes Milwaukee Ave. and unifies Logan Square, allowing for a fixed event space.

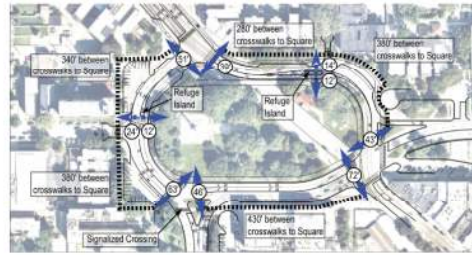
TRAVEL TIMES

28%
Increase on average

PARKING SPACES

99 Spaces

Concept 4 : Two Way, The Bend



8 Crosswalks to Logan Square	430' Maximum distance between crosswalks	49' Average crosswalk length
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EVENT FLEXIBILITY



The two-way street design in this concept provides additional event space by temporarily closing one of the perimeter legs around Logan Square.

TRAVEL TIMES

3%
Increase on average

PARKING SPACES

110 spaces

Two Way, The Bend | Pedestrian Access

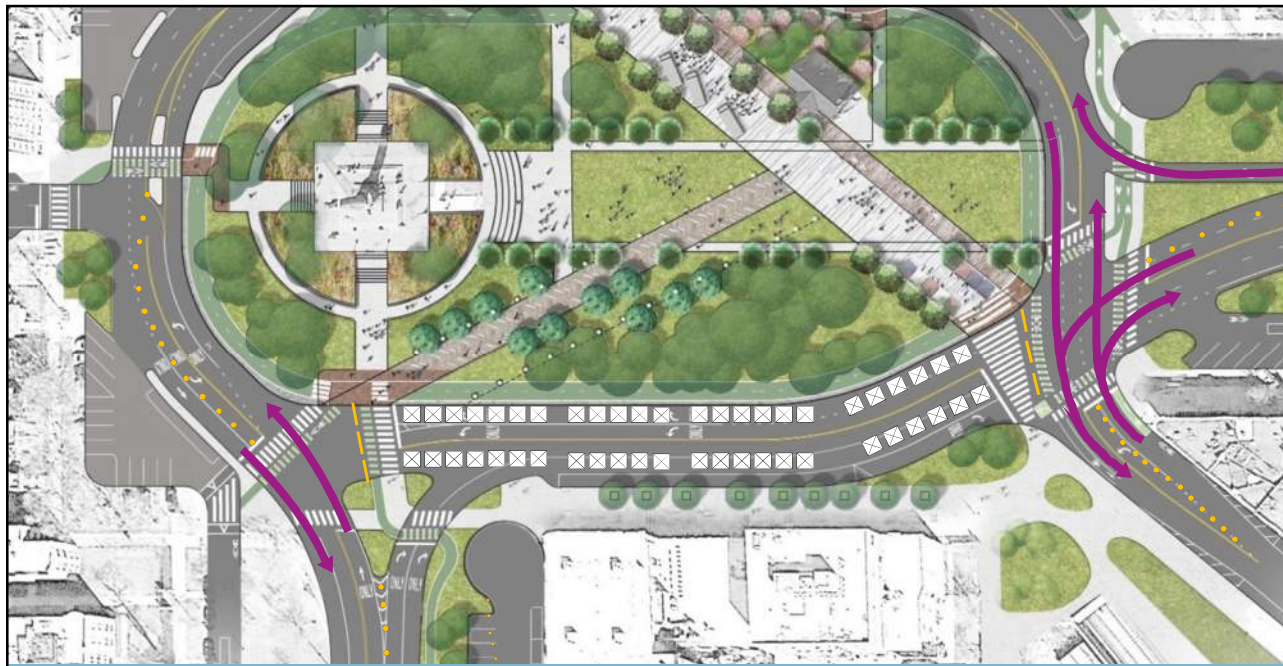
Traffic Operations



Concept 2 Traffic Oval



Concept 4 Two-Way, The Bend



Two Way, The Bend | Flexible Use of Streets

RECOMMENDATION

Two Way, The Bend

Improvements & Impacts

- Improves pedestrian access
- Allows flexible use of public streets
- Improves traffic and safety



RECOMMENDATION
Two Way, The Bend

Improvements
& Impacts

- Improves pedestrian access
- Allows flexible use of public streets
- Improves traffic and safety



RECOMMENDATION
Two Way, The Bend

Improvements
& Impacts

- Improves pedestrian access
- Allows flexible use of public streets
- Improves traffic and safety



Questions?

Thanks

