



IMPROVING TRAFFIC STUDIES THROUGH BETTER DATA

November 6th , 2019

Outline

- How Data Drives Traffic Studies
 - Case Studies
 - Atlanta Downtown Connector
 - Arnold Mill Bypass – City of Woodstock
 - I-440 Reconstruction
 - Chapman Highway/Henley Bridge Analysis
 - What Does the Future Look Like?
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How Data Drives Traffic Studies – Back in the Day...

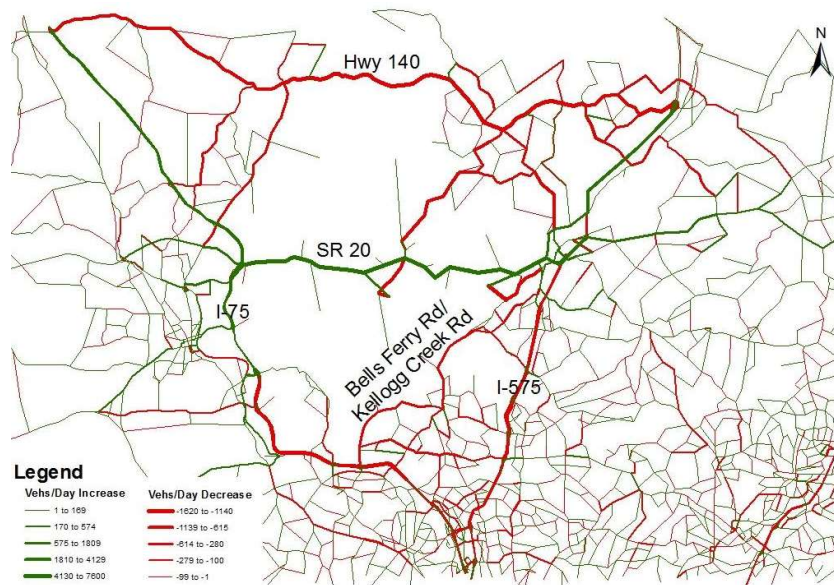
- High Quality Data
- Time Intensive
 - Field Work
 - In-Office Processing
- Must be Pre-Planned
- High Cost



Source: San Antonio Express-News



How Data Drives Traffic Studies – Back in the Day...



- Low Cost
- Relatively Quick
- Able to Identify Future Trends
- Lower Reliability
- Only Available in Areas with a Regional Model

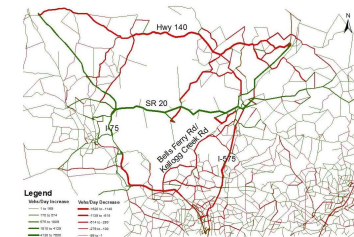


How Data Drives Traffic Studies – The Era of Big Data

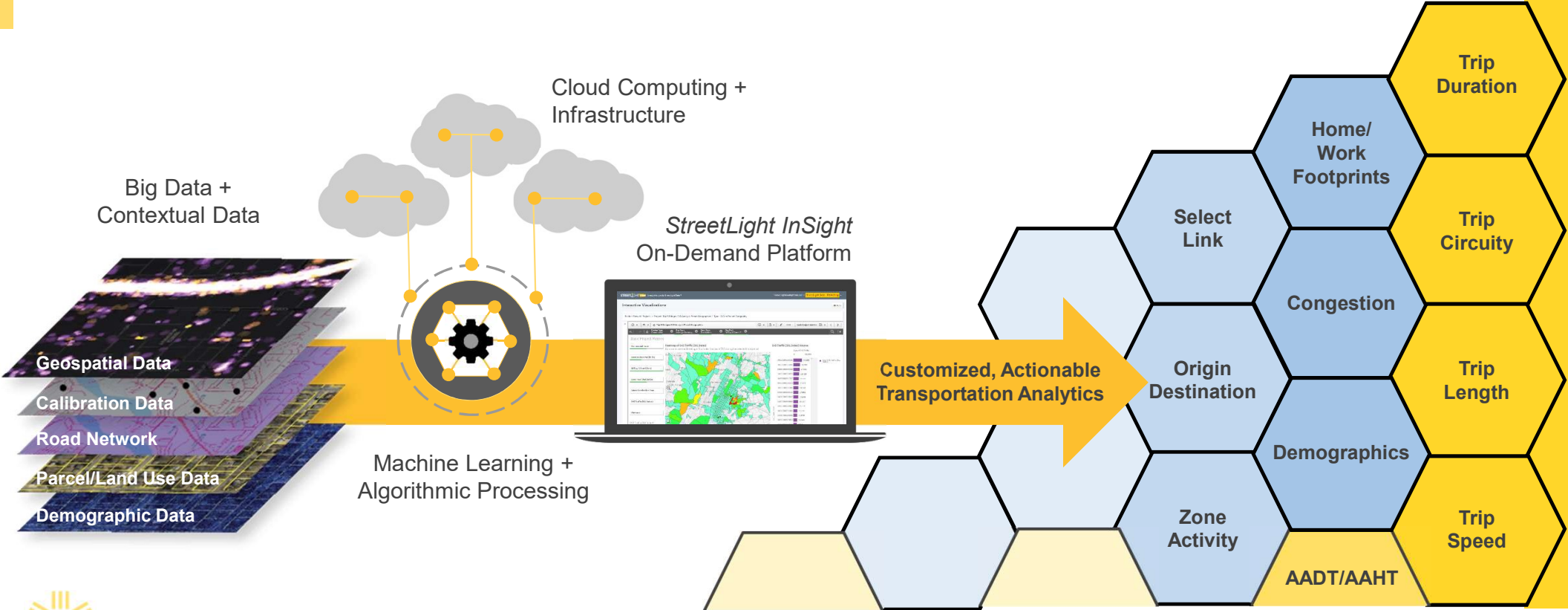


STREETLIGHT DATA
Big Data for Mobility

- Based on sampling set similar to field survey
- Combines data collection/analysis into one step
- Historic data available
- More in-depth data possible
- Available within minutes



Turn Big Data into actionable transportation analytics on demand



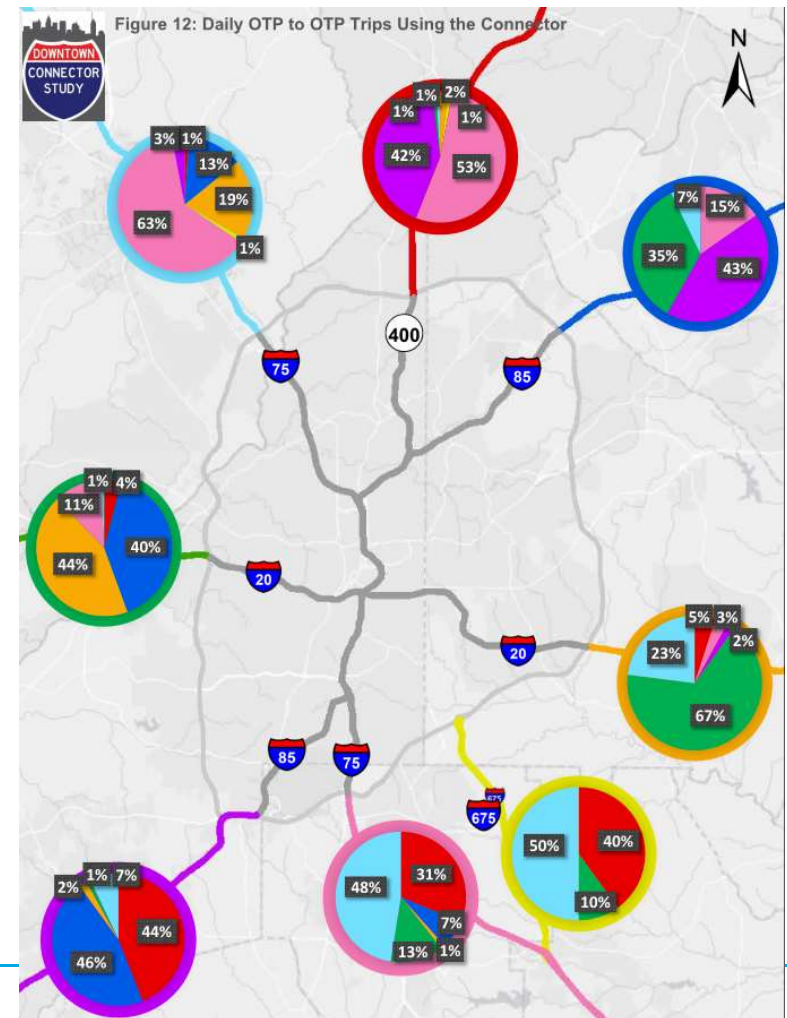
Downtown Connector – Overview



- GDOT is conducting a study of Atlanta's Downtown Connector, the common section of I-75 and I-85 through the Atlanta Central Business District.
- One of the primary goals of the study is to improve regional mobility.
- The composition of road users was determined through the analysis of traffic data sets including StreetLight origin-destination data.

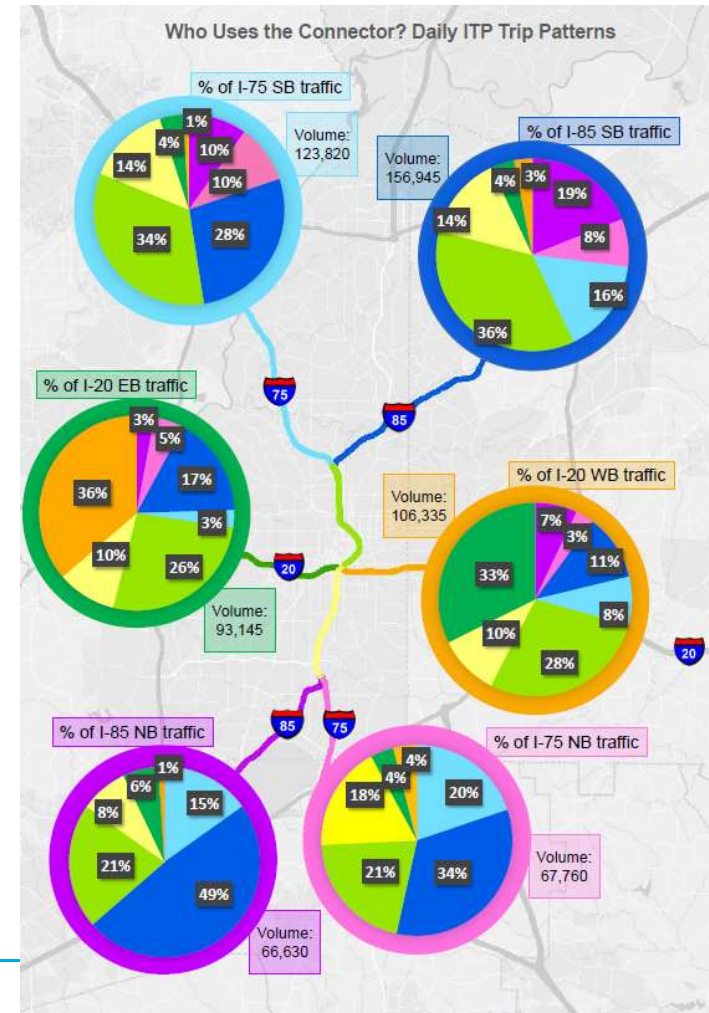
Downtown Connector – Regional Travel Patterns

- The Connector serves as the spine of the regional transportation network
- Team wanted to better understand cross-regional trips using the facility
- Can I-285 improvements improve the Connector?



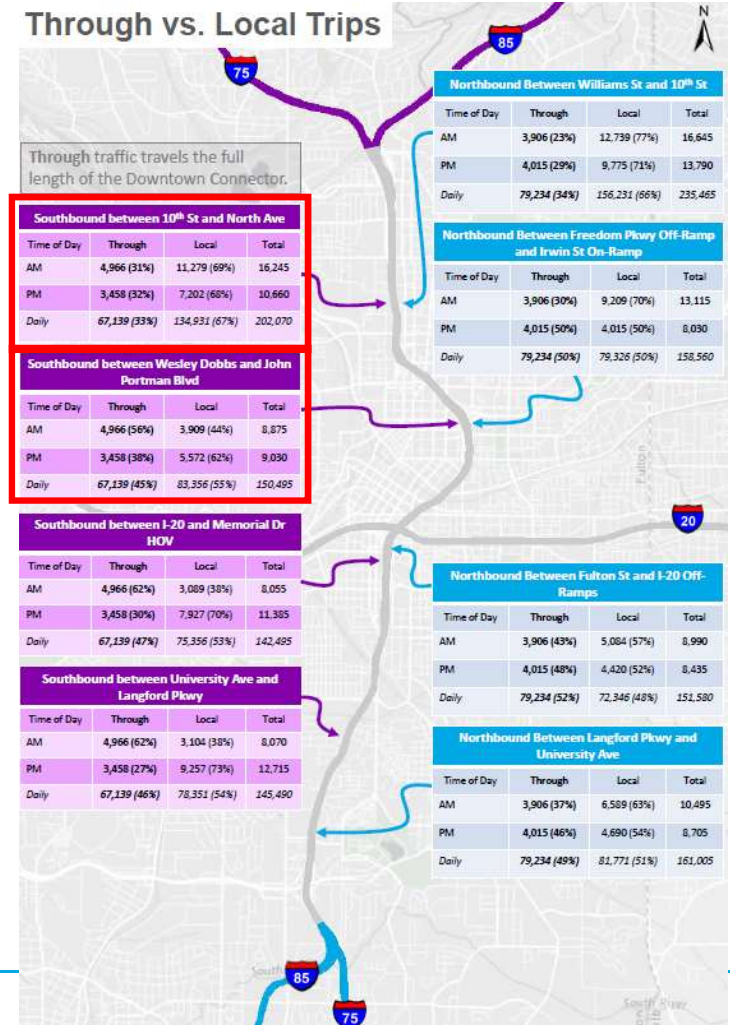
Downtown Connector – Corridor Travel Patterns

- Reviewed regional flows to identify patterns for motorists located within the Perimeter
- Analysis showed that a large portion of motorists were using the Connector for “non-through” trips
- Assisted team in defining the current and future purpose of the Connector



Downtown Connector – Segment-Level Data

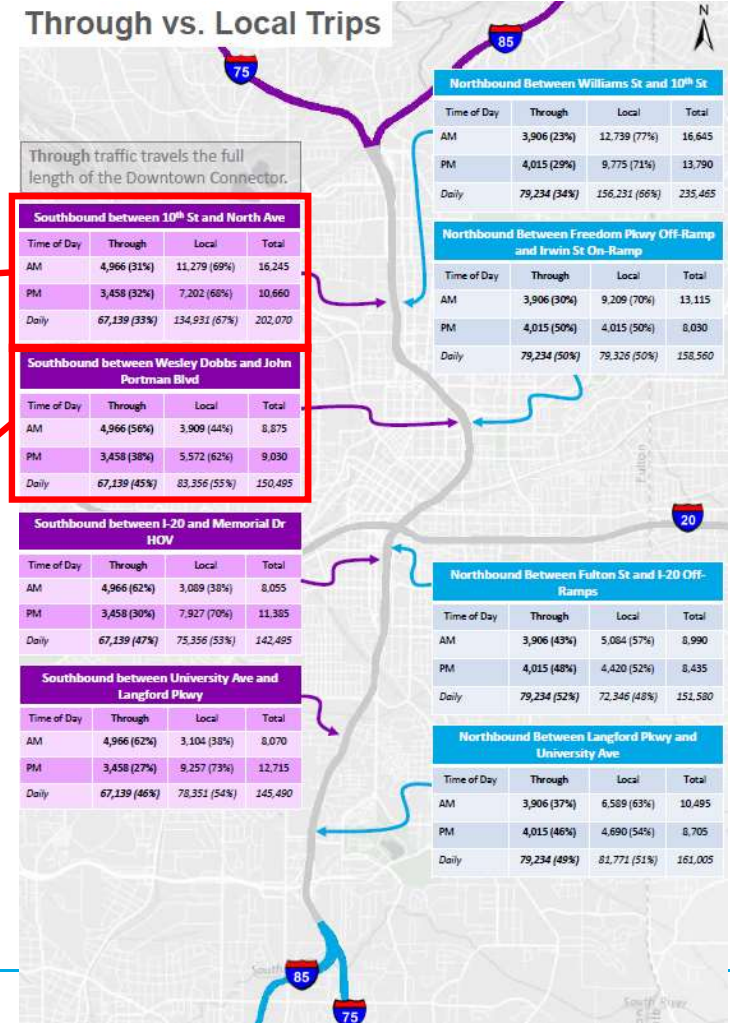
- Data was also used to drill down into specific segments
- Utilized count data to put actual numbers to the percentages
- Detailed data led to more questions



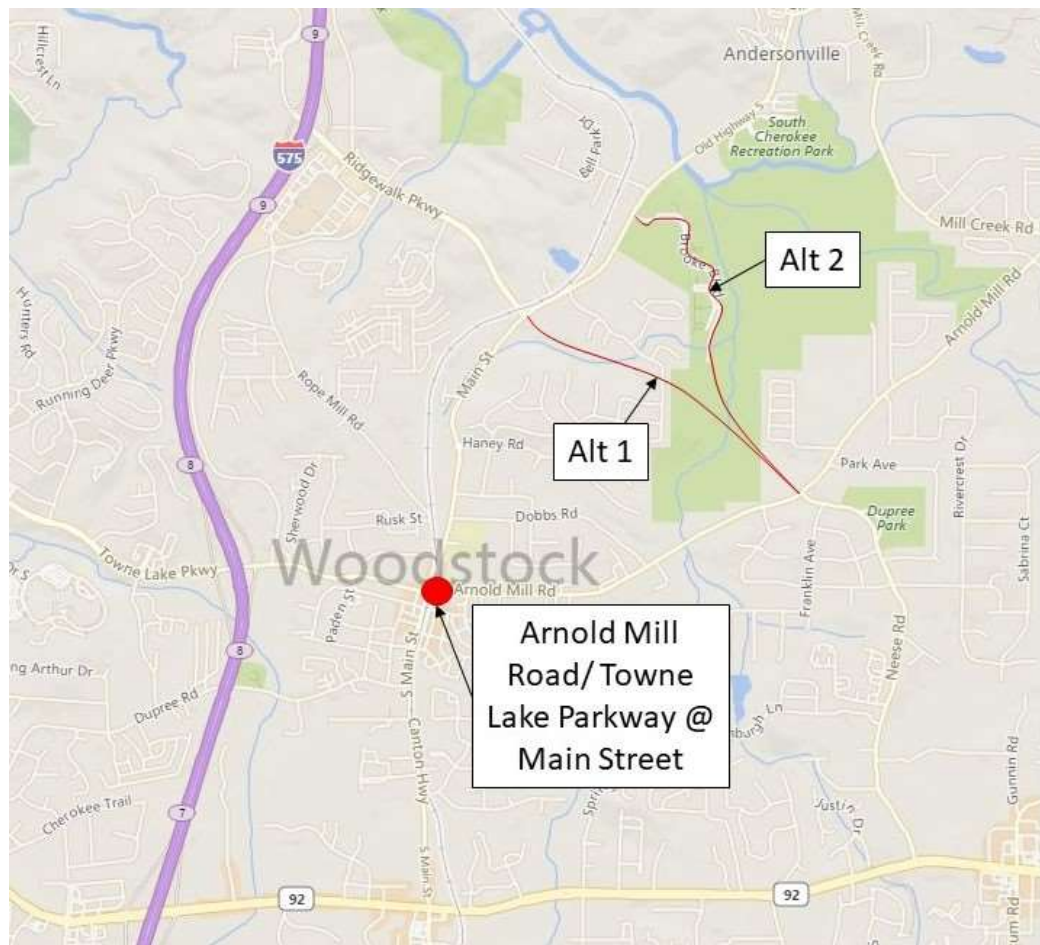
Downtown Connector – Segment-Level Data

Southbound between 10 th St and North Ave			
Time of Day	Through	Local	Total
AM	4,966 (31%)	11,279 (69%)	16,245
PM	3,458 (32%)	7,202 (68%)	10,660
Daily	67,139 (33%)	134,931 (67%)	202,070

Southbound between Wesley Dobbs and John Portman Blvd			
Time of Day	Through	Local	Total
AM	4,966 (56%)	3,909 (44%)	8,875
PM	3,458 (38%)	5,572 (62%)	9,030
Daily	67,139 (45%)	83,356 (55%)	150,495



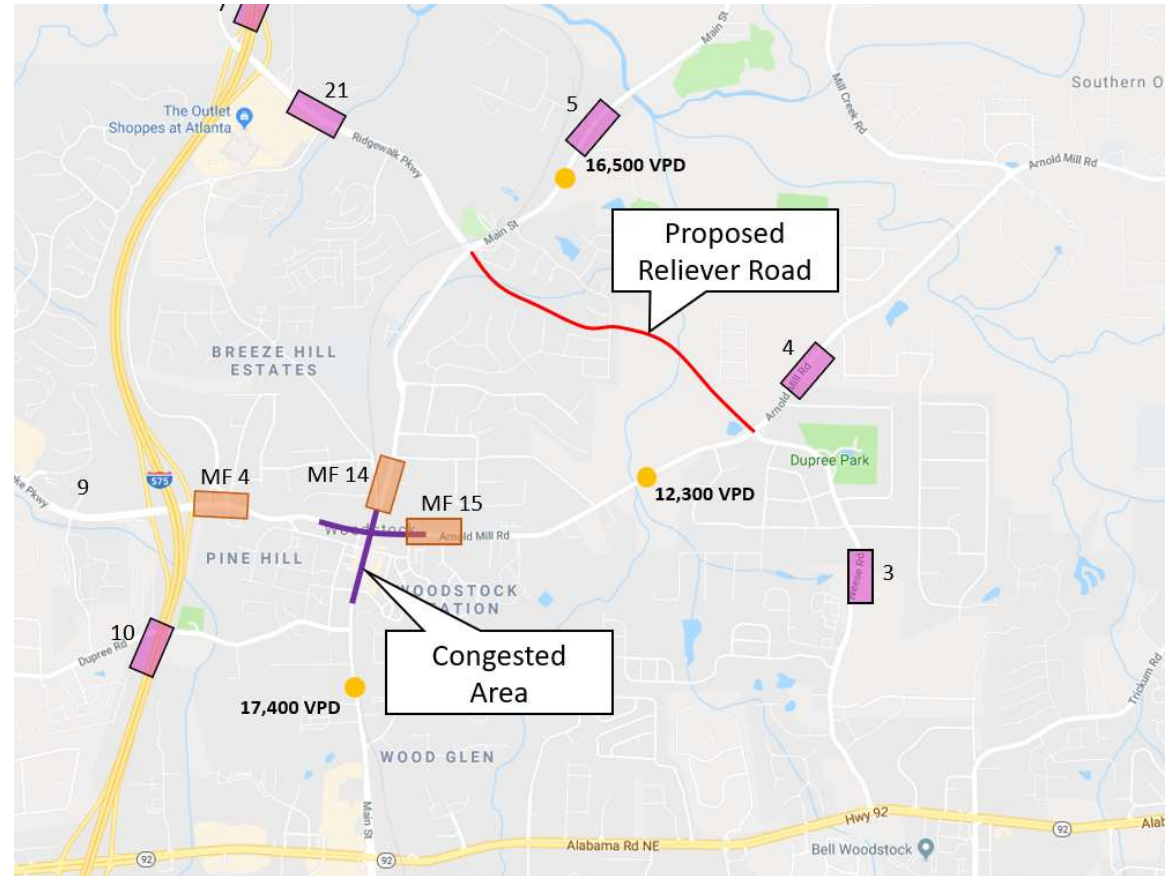
Arnold Mill Connector – Overview



- The City of Woodstock, Georgia conducted a study to determine the impact of constructing a reliever road to the east of the intersection of two major corridors through the city.
- Two alignments for the reliever road were proposed.
- Origin-destination data was used to quantify potential users of each alternative.

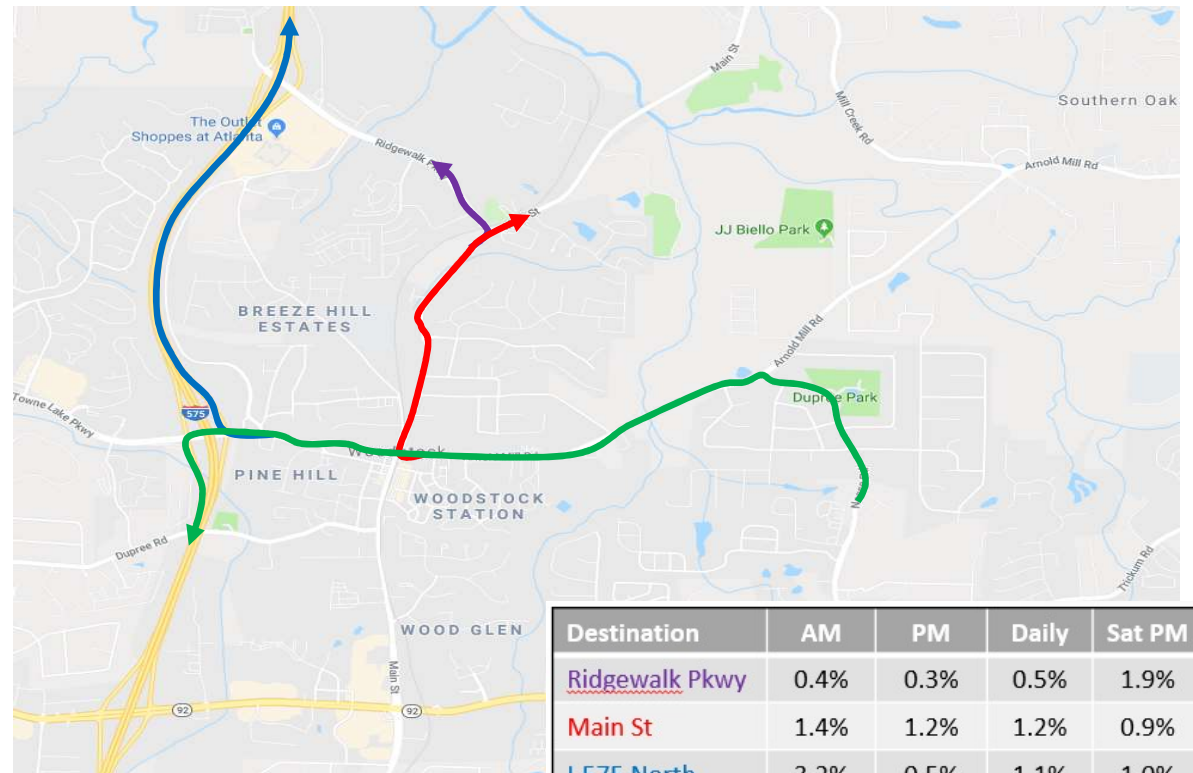
Arnold Mill Connector – Setting up Zones

- Users create their own zones or utilize standard areas
- Zones need to have sufficient population or traffic
- Zone scheme can include middle filters if you want to be more specific with results



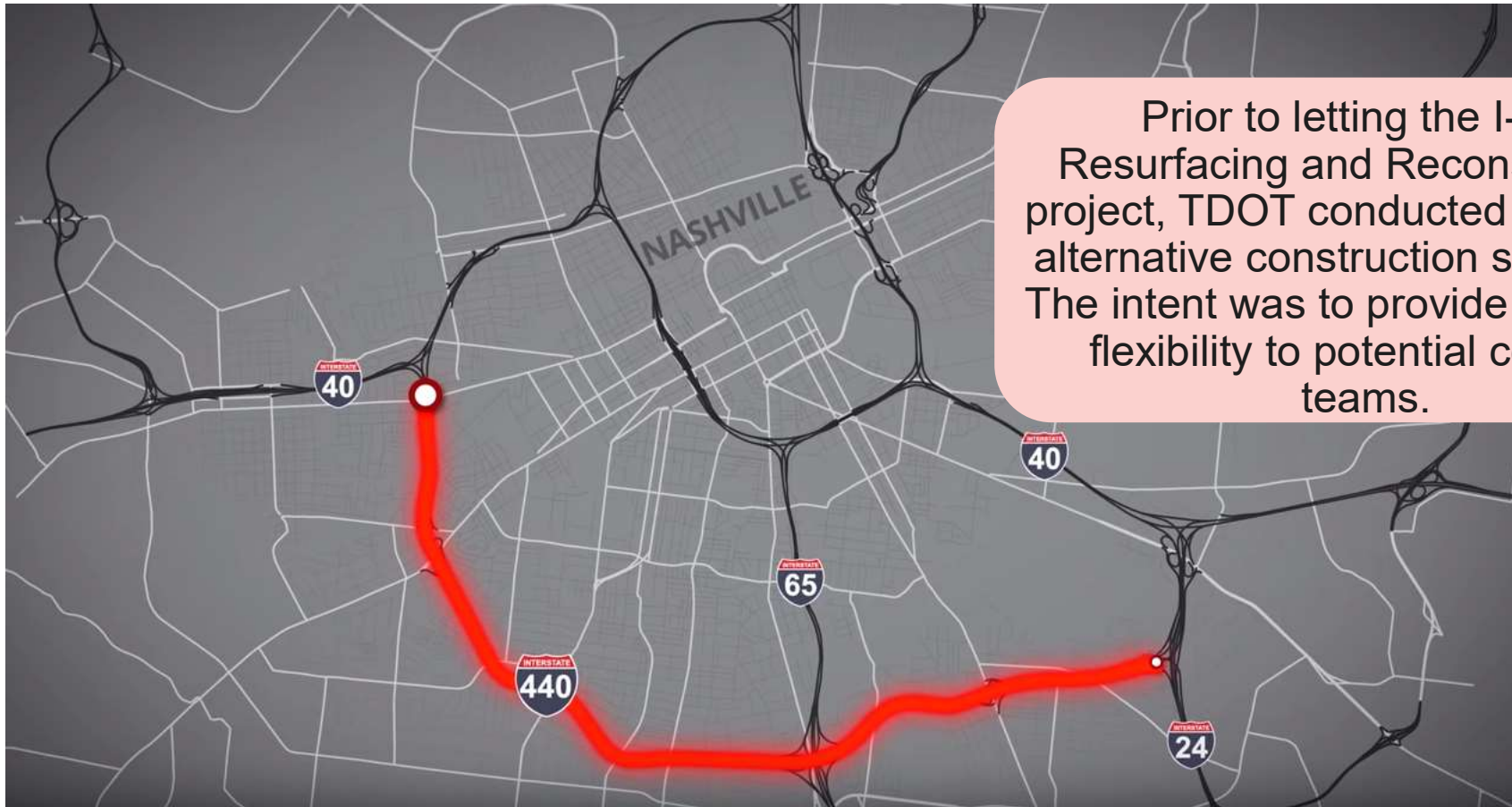
Arnold Mill Connector – Results

- Trip ratios were applied to collected traffic counts to calculate diversion percentages.
- Length of the new facility and TAZ size would have led to potentially erroneous results



Destination	AM	PM	Daily	Sat PM
Ridgewalk Pkwy	0.4%	0.3%	0.5%	1.9%
Main St	1.4%	1.2%	1.2%	0.9%
I-575 North	3.2%	0.5%	1.1%	1.0%
I-575 South	0.5%	0.5%	0.6%	1.2%

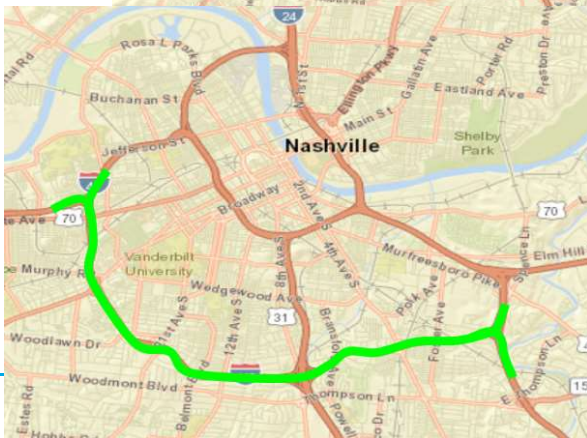
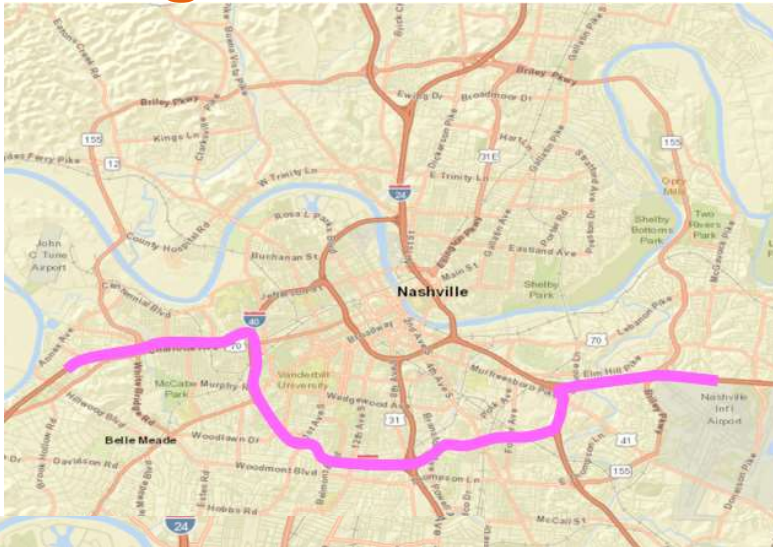
I-440 Reconstruction – Overview



Prior to letting the I-440 Resurfacing and Reconstruction project, TDOT conducted a study of alternative construction schedules. The intent was to provide maximum flexibility to potential contract teams.

Source: TDOT

I-440 Reconstruction – Through Traffic

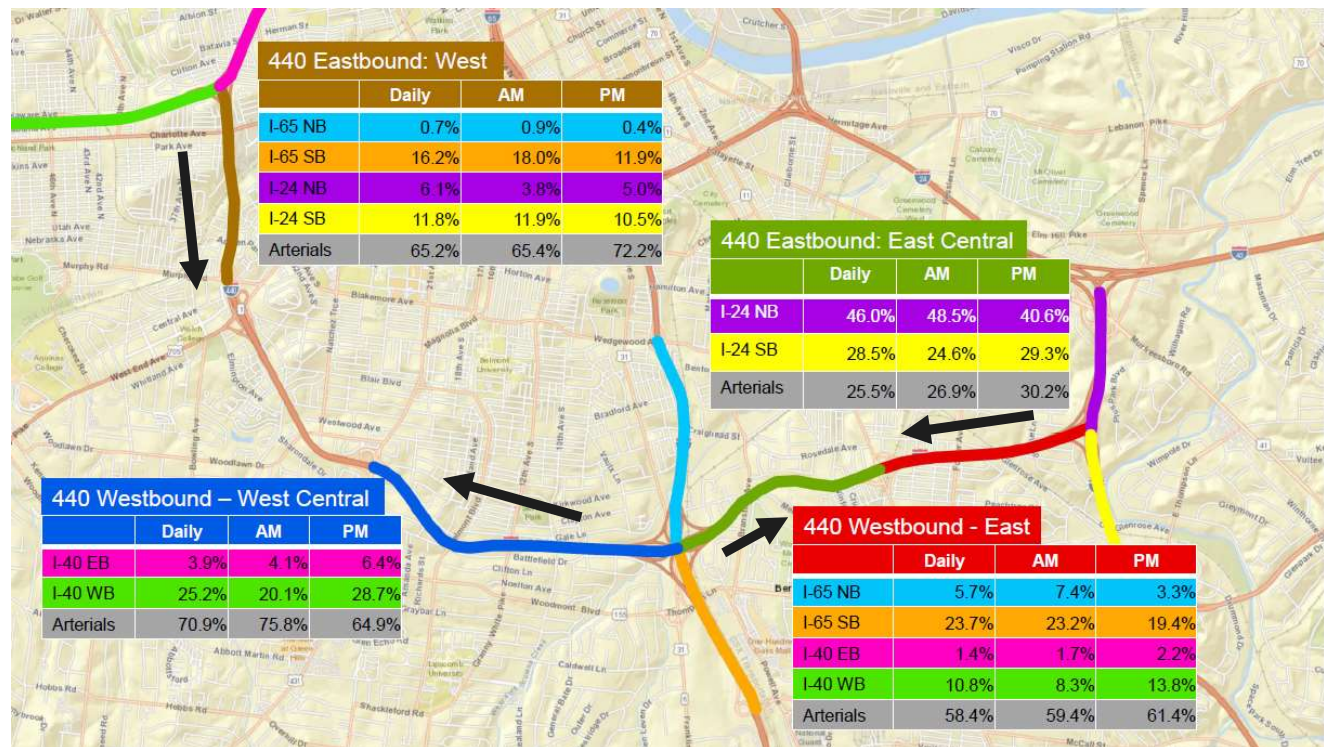


Daily Through Traffic (As a % of I-440 Traffic)

Length of I-440	11.8%
Briley Pkwy to Briley Pkwy	1.3%
I-840 to I-840	0.1%

I-440 Reconstruction – Segment-Level Destinations

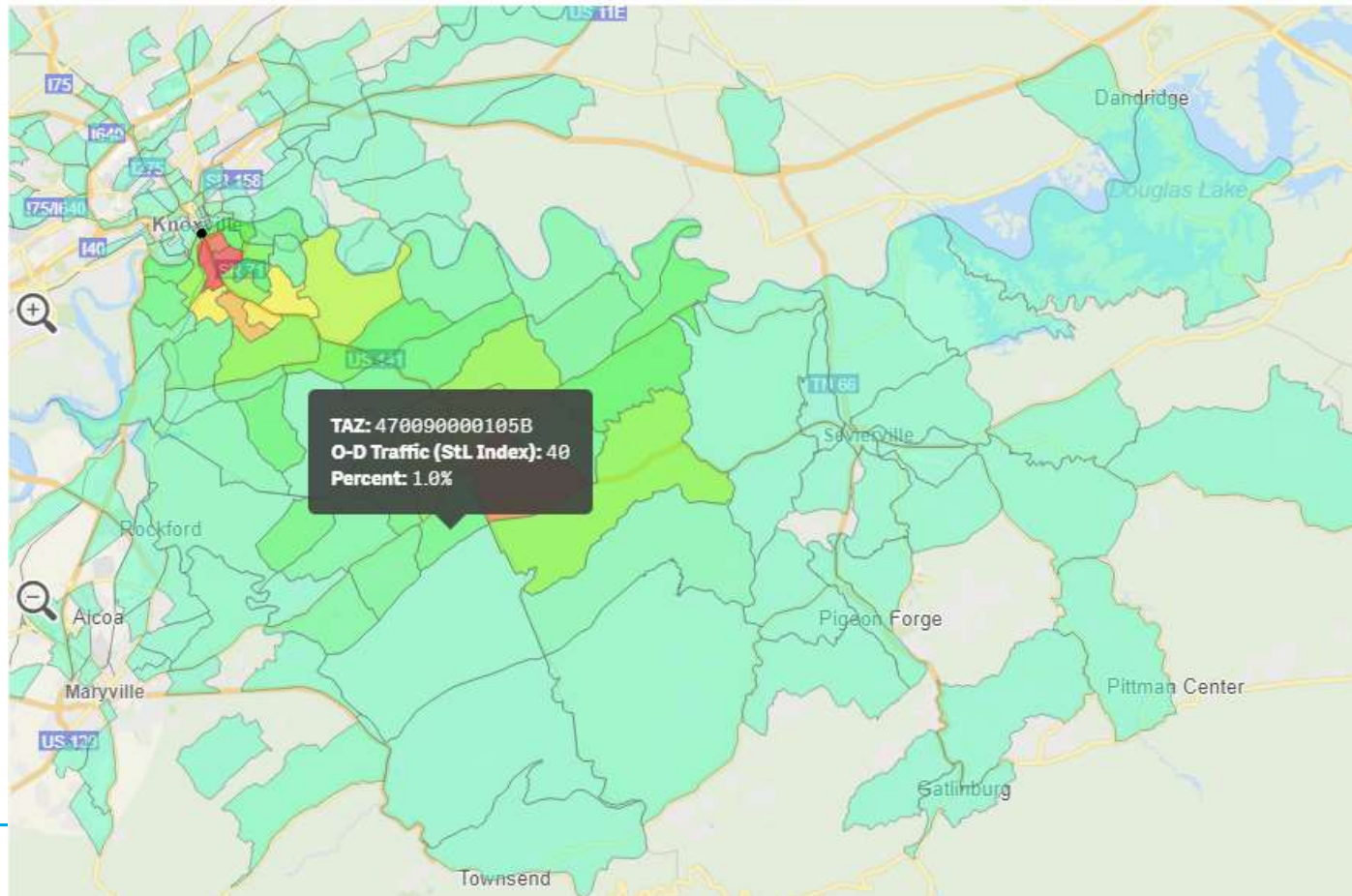
- Drilled down to use by segments
- Figures shows percent of traffic by where it leaves I-440



Henley Bridge Origins

O-D Traffic

Colors indicate the O-D Traffic from each TAZ during the selected time period.

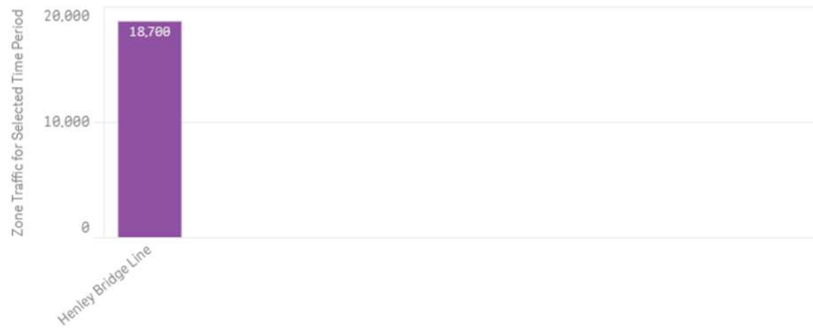


Henley Bridge Destinations

Trip/Traveler Attributes - ZA

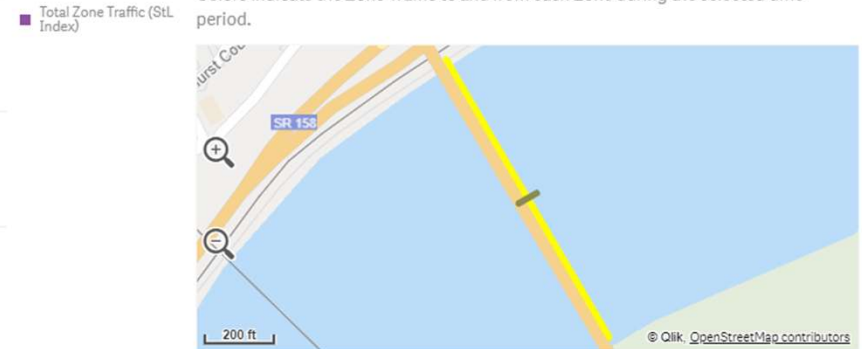
- Personal Travel
- Weekday (M-Th)
- All Day (12am-12am)
- Intersection: Trips that Pass-Through Only
- Select Zone(s)
- Trip Attributes
- View as StreetLight Index

Zone Traffic Volume

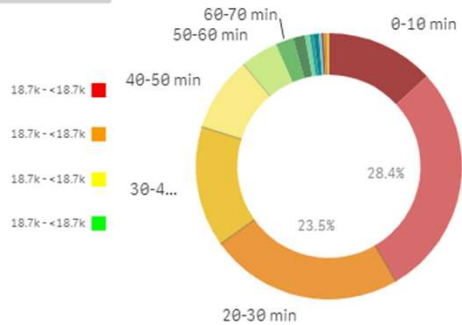


Heatmap of Zone Traffic

Colors indicate the Zone Traffic to and from each Zone during the selected time period.

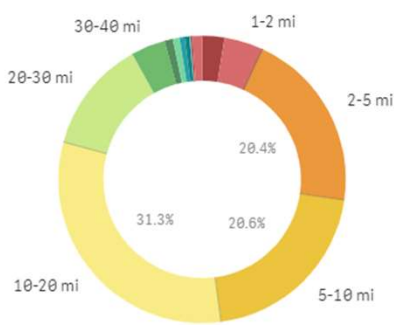


Traffic by Trip Duration

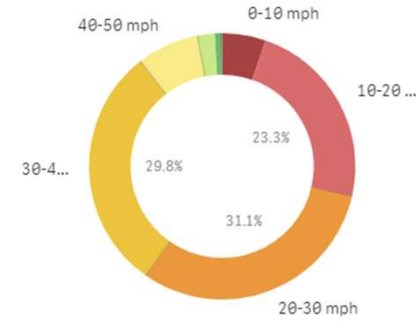


* The data set contains negative or zero values that cannot ...

Traffic by Trip Length

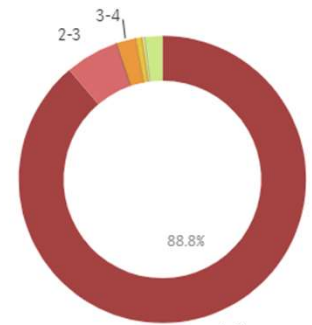


Traffic by Trip Speed

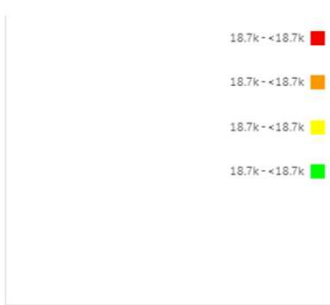


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Traffic by Trip Circuitry



Zone Traffic





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