

Madison Beltline Study Update

Alliant Energy Center
Master Plan Committee Meeting

September 19, 2016



Agenda

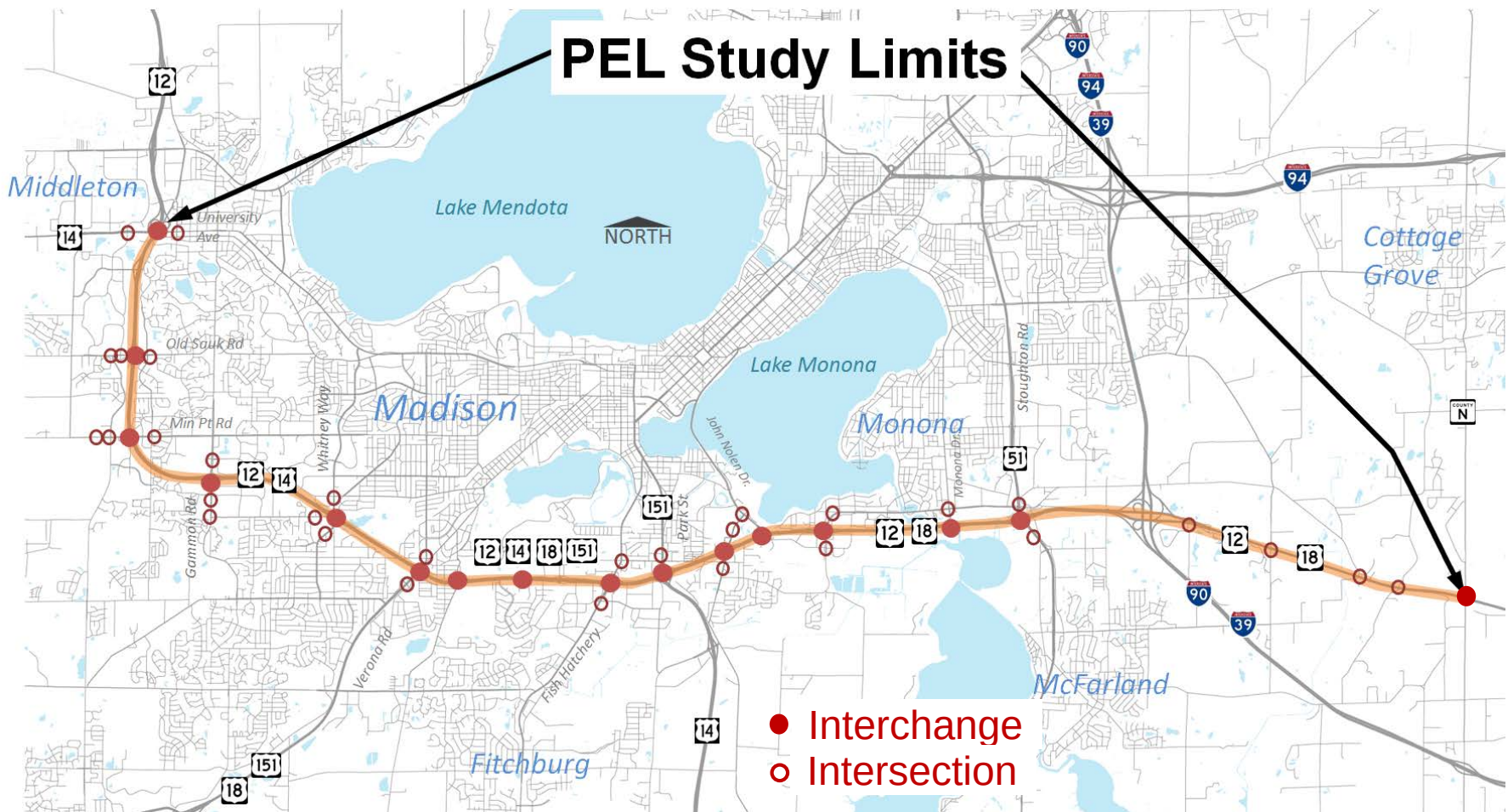
- ▶ **Beltline Challenges**
- ▶ **Beltline Study Process**
- ▶ **Planning and Environment Linkages (PEL) Study Strategy Development and Evaluation**
- ▶ **Next Steps**



Beltline Challenges

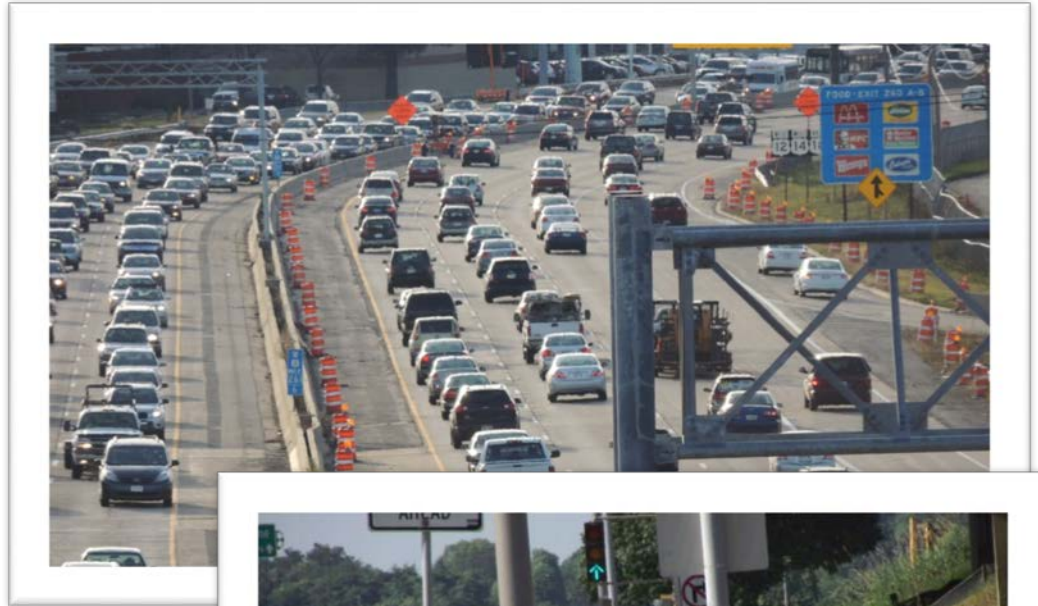


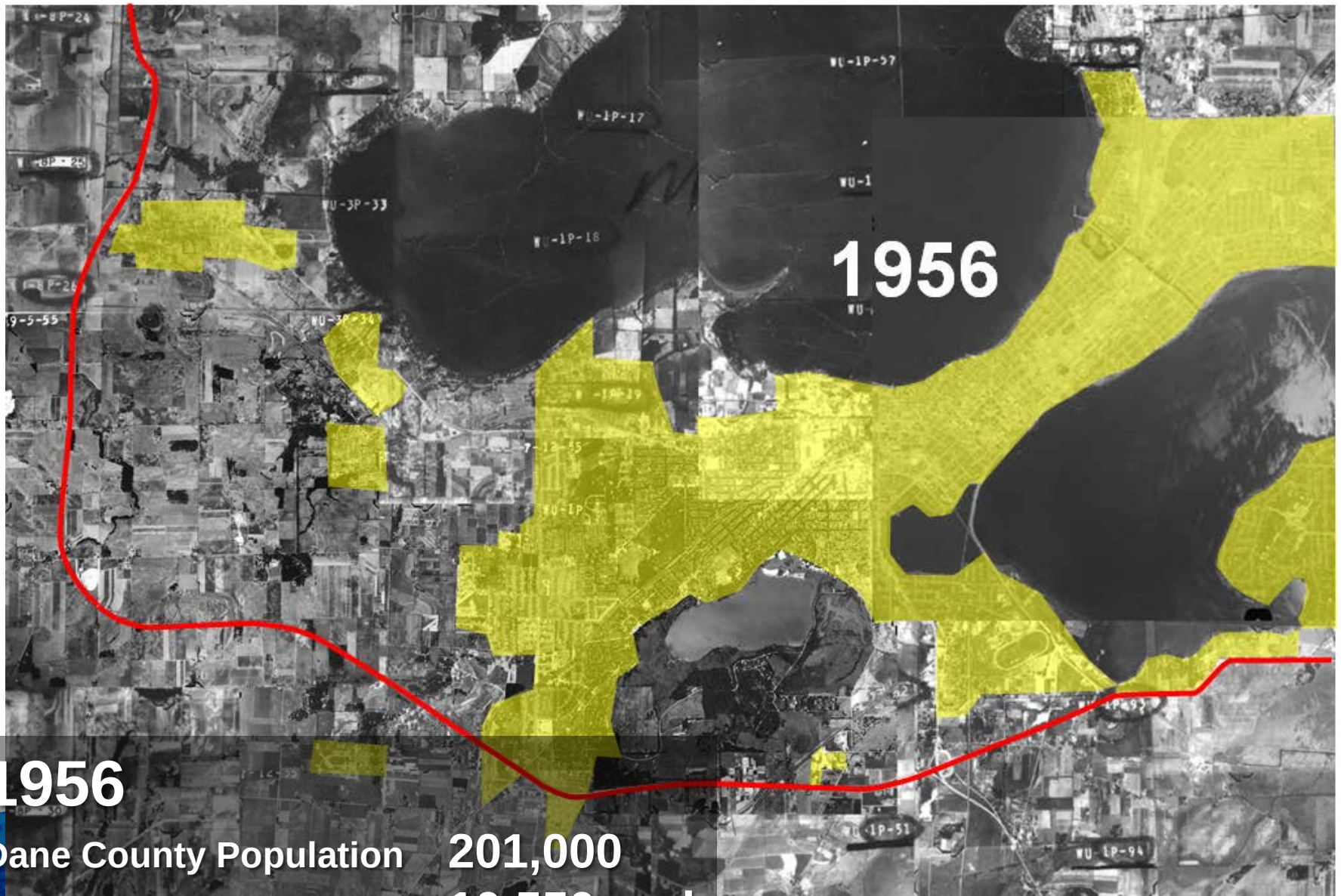
Study corridor limits



Why is the Beltline being studied?

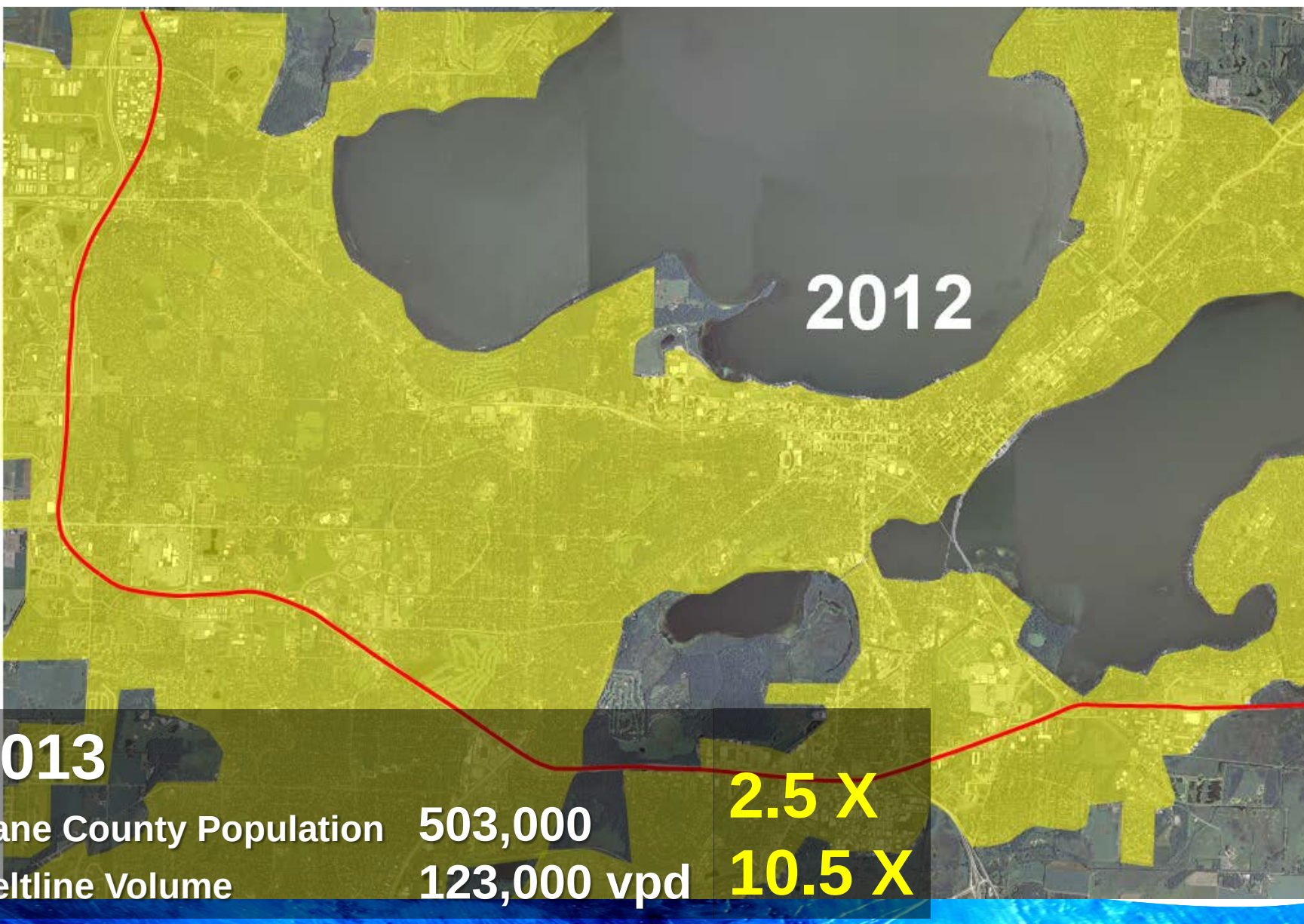
- ▶ Motor vehicle congestion
- ▶ High crash rate
- ▶ Complex Regional traffic patterns
- ▶ Bike/ped accommodation needs
- ▶ Transit needs
- ▶ Few alternate routes
- ▶ Deteriorating physical conditions





1956

Dane County Population 201,000
Beltline Volume 10,550 vpd



2012

2013

Dane County Population 503,000

2.5 X

Beltline Volume 123,000 vpd

10.5 X



I-39 (267)

L19

L17

O-88

R-86

R-85

37

38

37

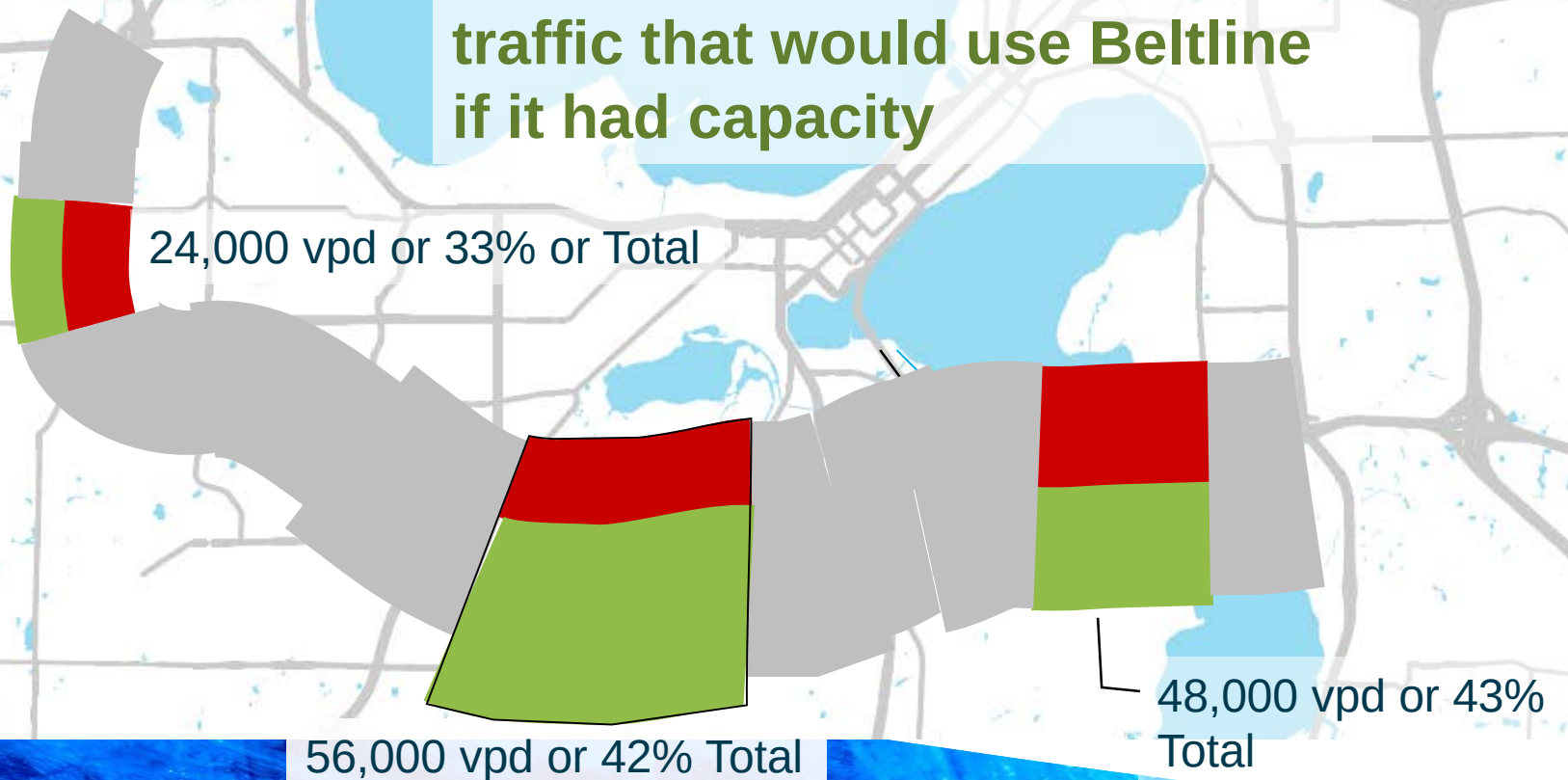
40

Congestion

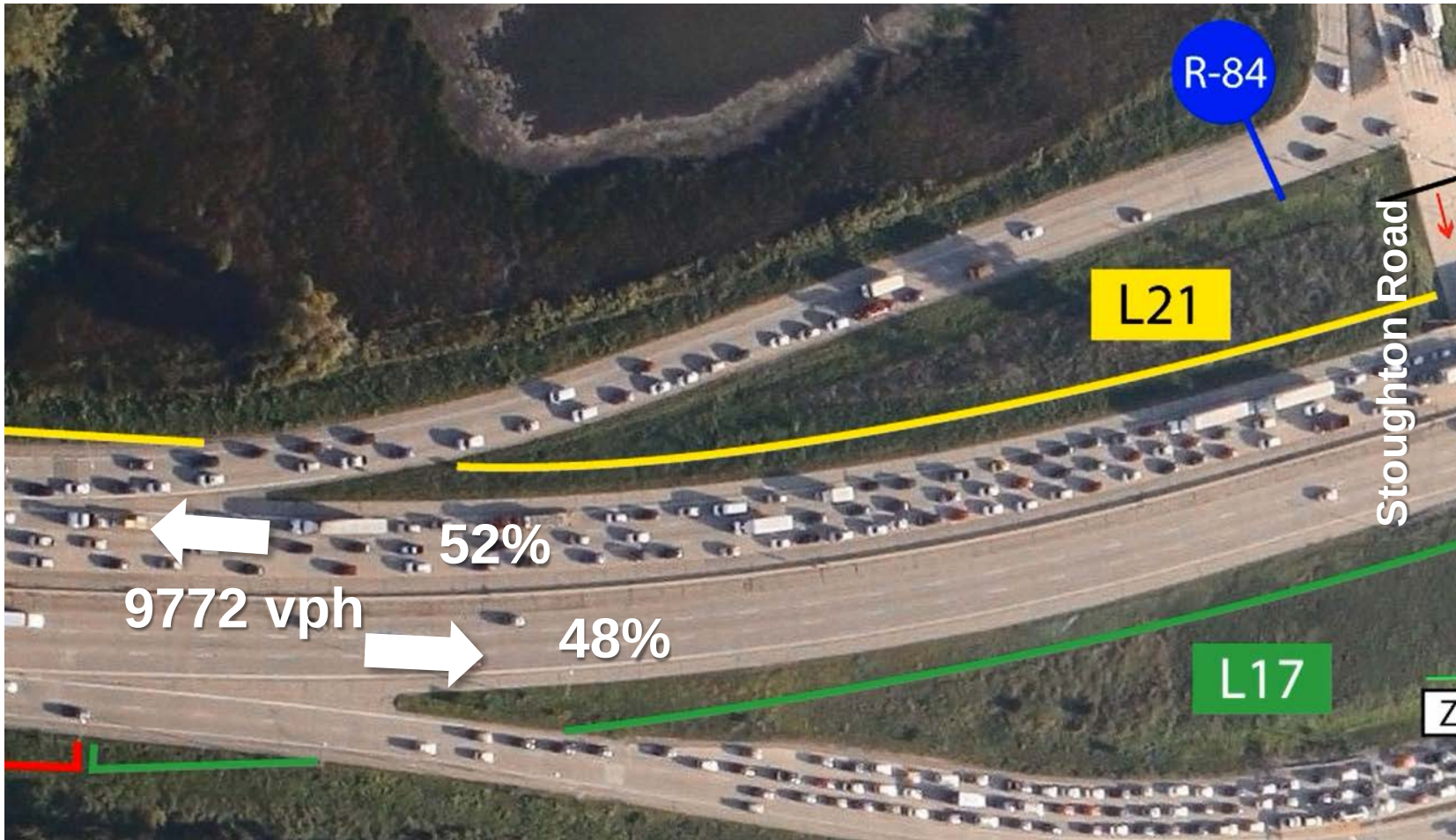
Unconstrained Beltline 2050

**Constrained - Beltline growth
2010 to 2050**

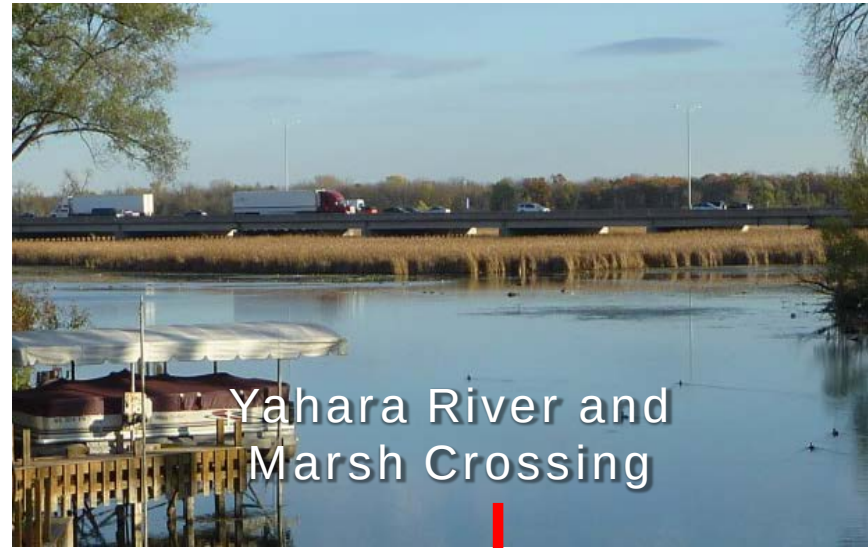
**Unconstrained - additional
traffic that would use Beltline
if it had capacity**



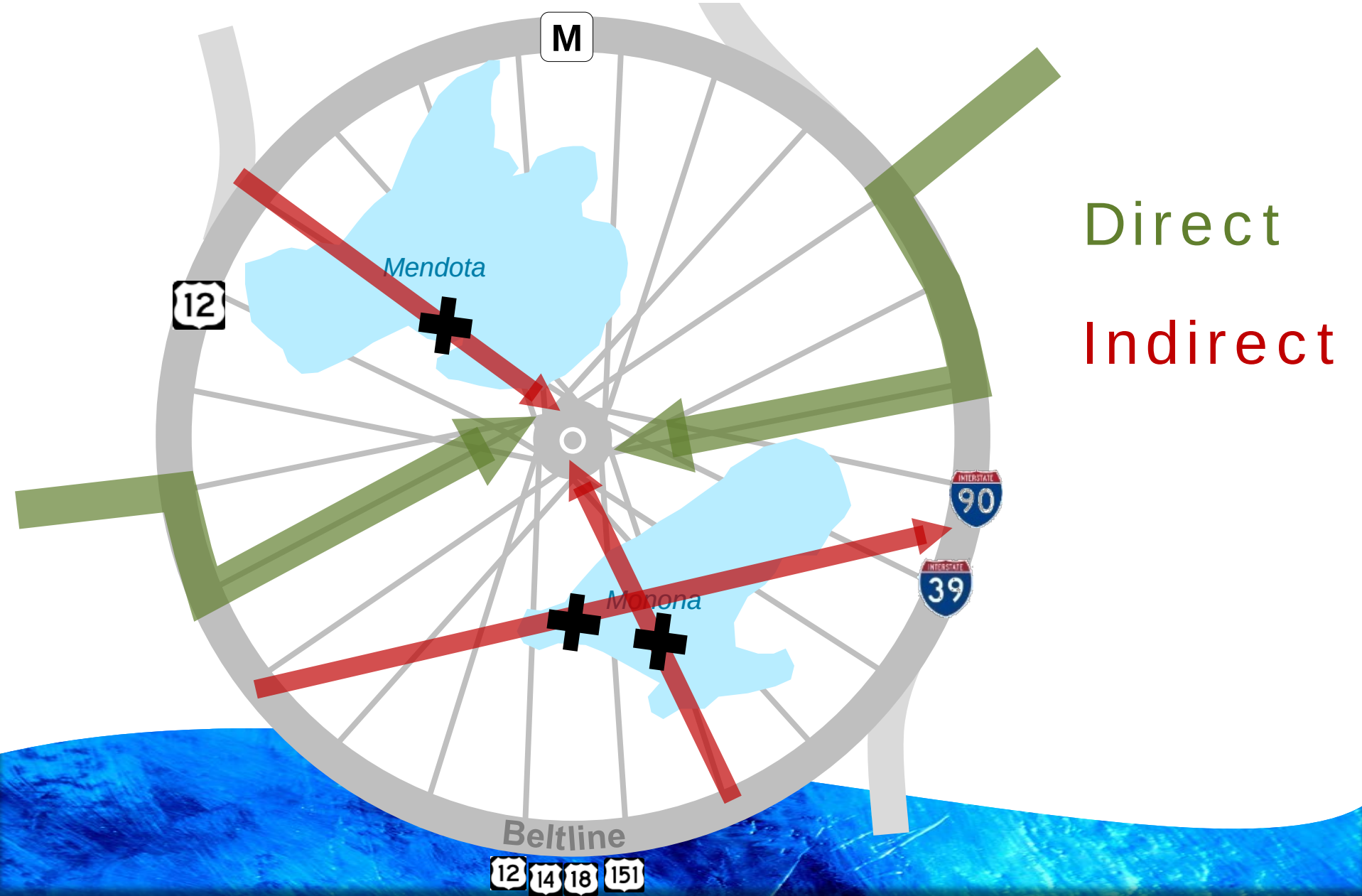
The problem is more than just volumes



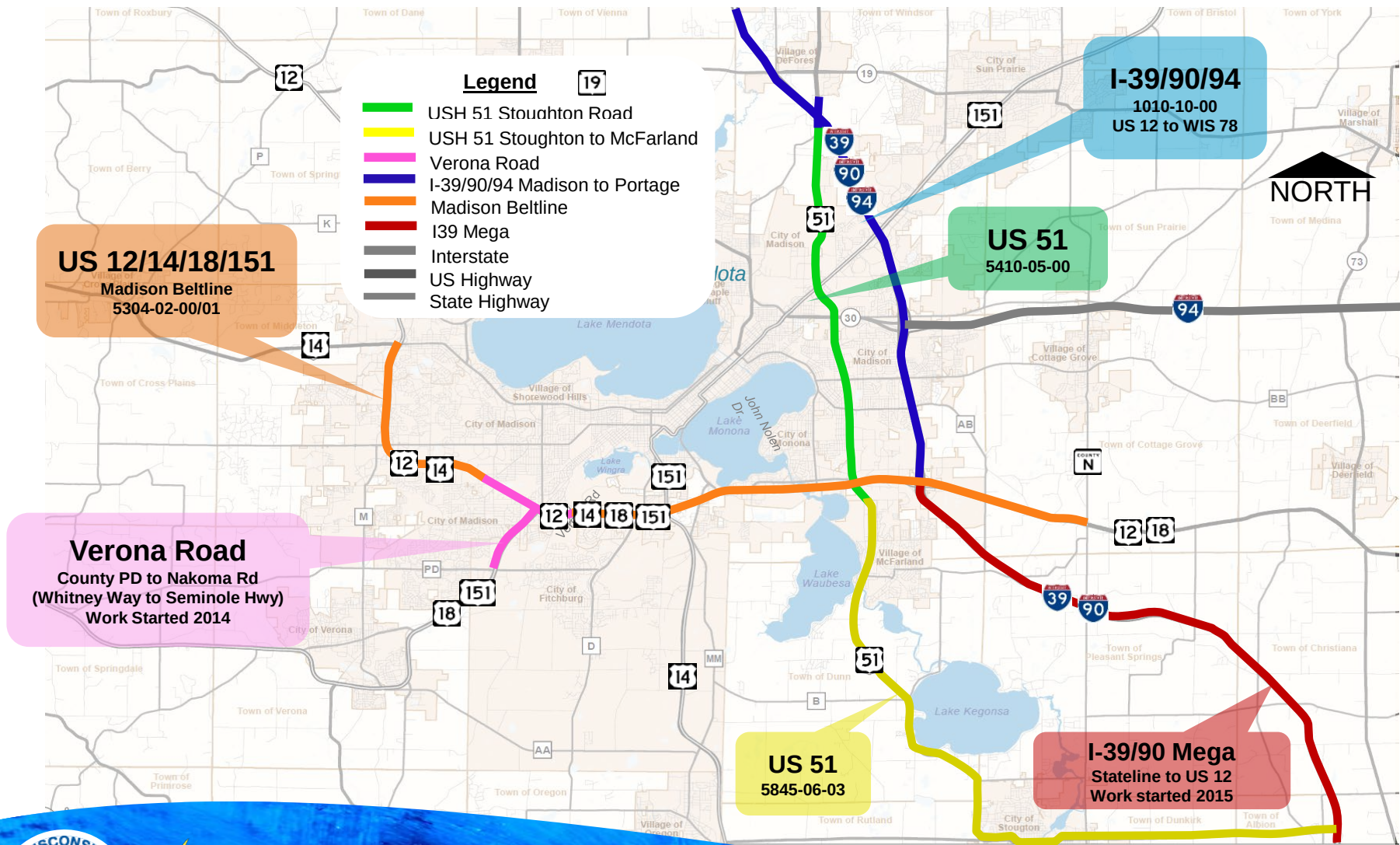
Important resources located adjacent to Beltline



Geographically challenging travel



Other area Majors program projects



Beltline Study Process



Three Study Parts

Part 1 : O/D Study

- Data Collection = Summer/Fall 2012
 - Analysis = 2013/14
 - Completed Report = Fall 2014

Part 2: Planning and Environment Linkages (PEL) Study

- Work Plan = Fall 2012
 - Completion = Spring 2016

Part 3: Environmental Impact Statement

- Begin = Spring 2016
 - Anticipated Completion Dates
(Multiple environmental documents)
2018-2022



WisDOT collected unprecedented amount of Dane County travel data



Bluetooth
Technology
TADI/Traffax, Inc.



Aerial Time
Lapse
Photography
Skycomp, Inc.

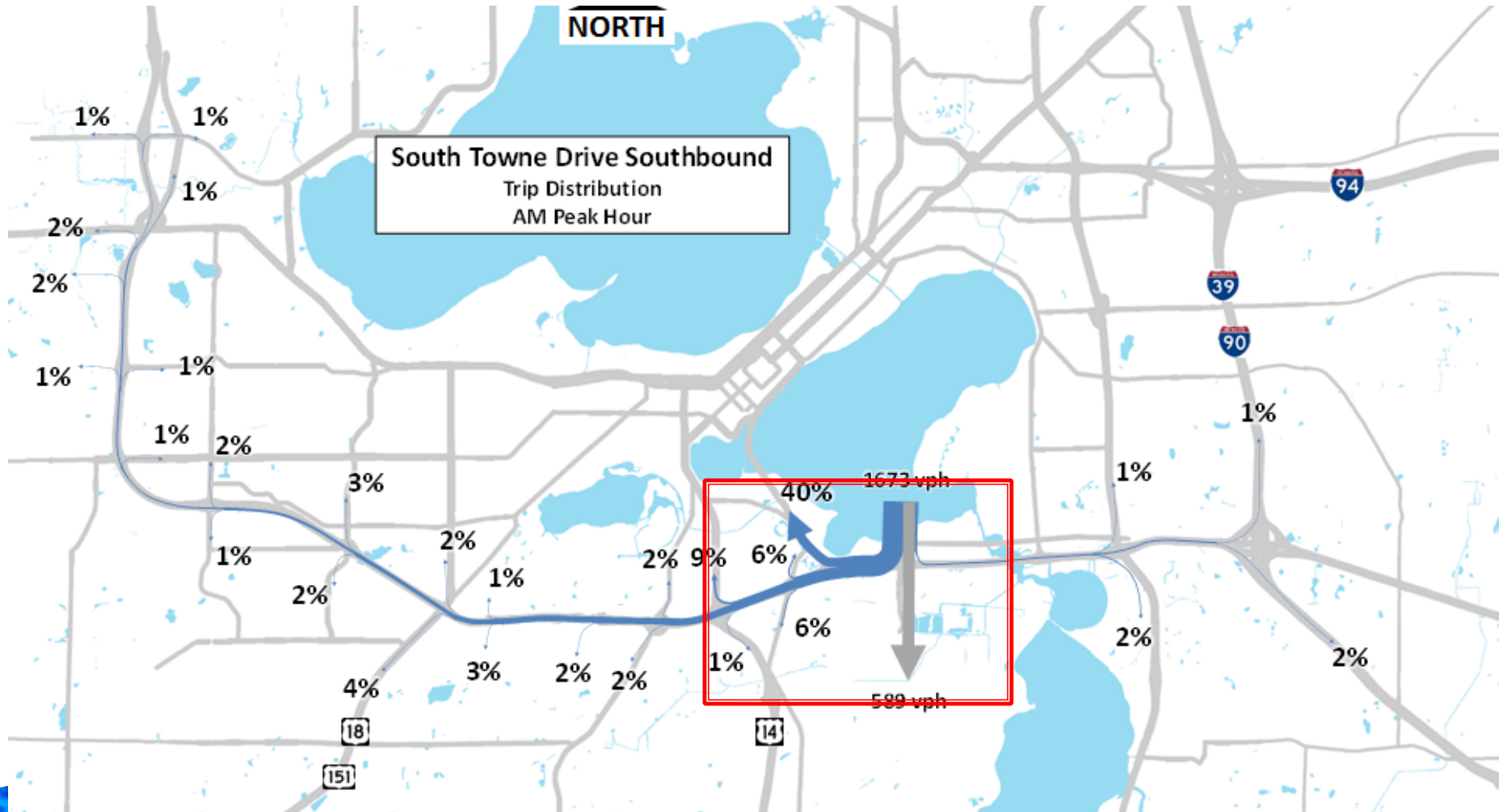


Volume Data
WisDOT/TADI

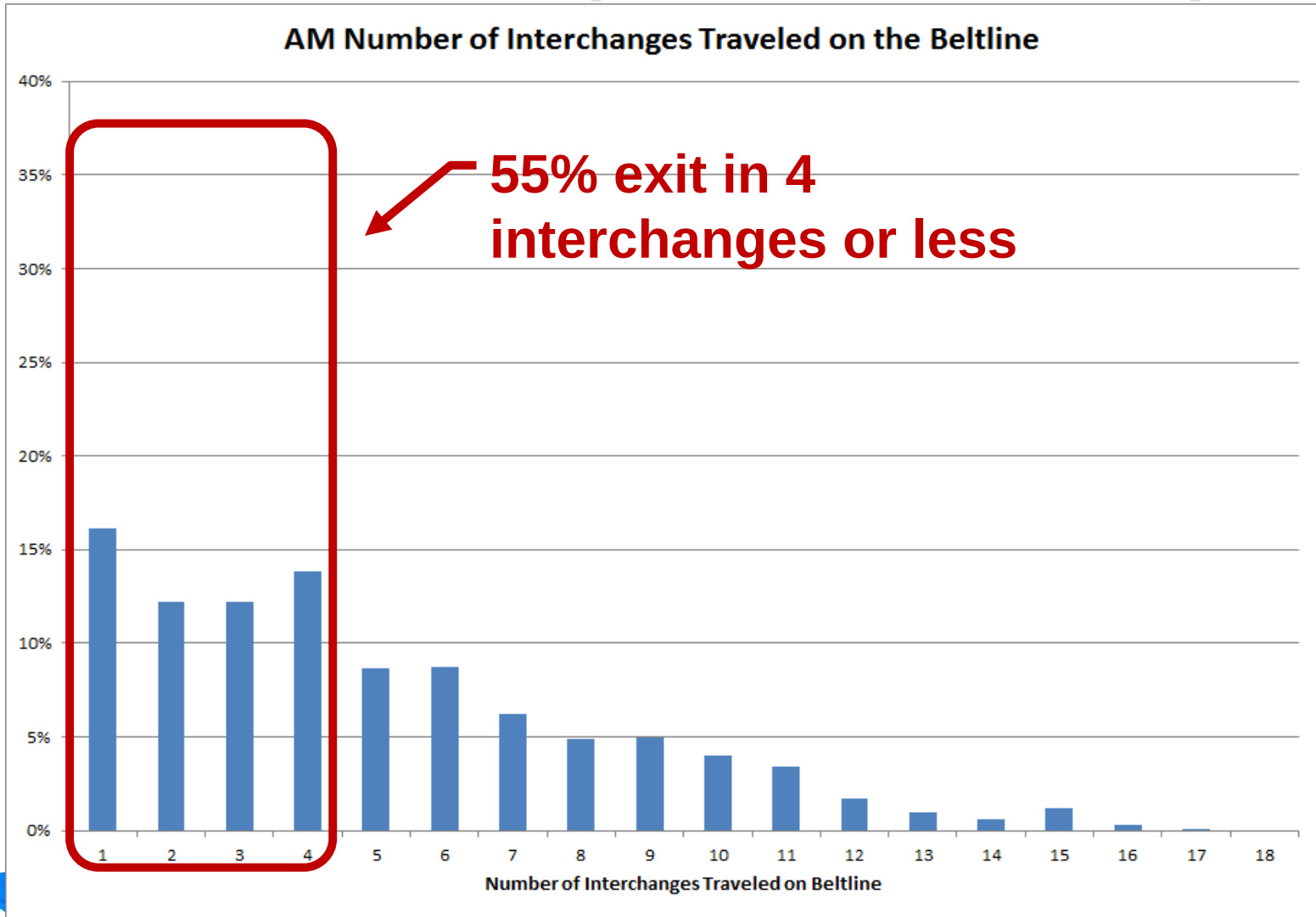


[illegible]

Beltline carries traffic trying to get around resources



Beltline traffic comprised of short trips



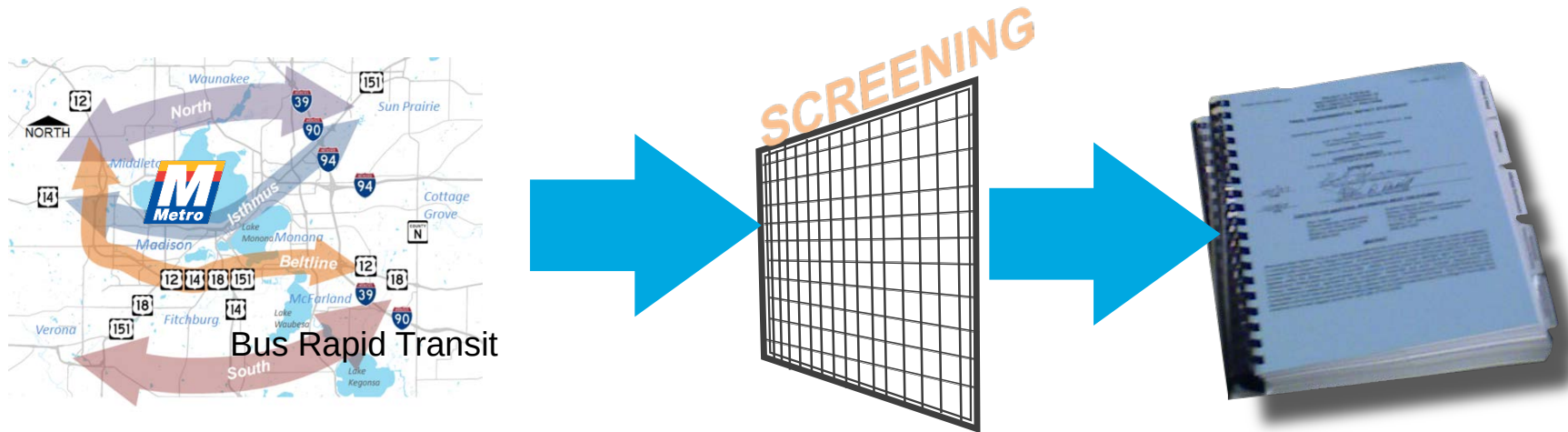
What is PEL?

- ▶ A *COLLABORATIVE* approach to transportation decision making that considers the area's long-term environmental, community and economic goals and uses the resulting planning information, analysis, and products in NEPA
- ▶ Part of a *PROGRAM* promoting tools and resources focused on shortening project delivery time



PEL Process

A **collaborative and integrated** approach to long-term transportation decision making.



**Develop
Problem
Statement,
Goals, and
Objectives**

**Develop
Screening
Criteria**

**Develop
Strategies
and Evaluate
(Screen)**

**Identify
Strategies to
Bring
Forward into
NEPA**

We are here



Beltline PEL Objectives

- Improve safety for **all travel modes**.
- Address Beltline infrastructure condition and deficiencies.
- Address system mobility (congestion) for **all travel modes**.
 1. **Pedestrian**
 2. **Bicycle**
 3. **Transit**
 4. Local and regional passenger vehicles
 5. Freight
- Limit adverse social, cultural, and environmental effects to the extent practicable.
- Increase system travel time reliability for regional and local trips.
- Improve connections across and adjacent to the Beltline for **all travel modes**.
- Enhance efficient regional multimodal access to Madison metropolitan area economic centers.
- Decrease Beltline traffic diversion impacts to neighborhood streets.
- **Enhance transit ridership** and routing opportunities.
- **Improve pedestrian and bicycle** accommodations.
- Complement other major transportation initiatives and studies in the Madison area.
- Support infrastructure and other measures that encourage **alternatives to single occupancy vehicle travel**.

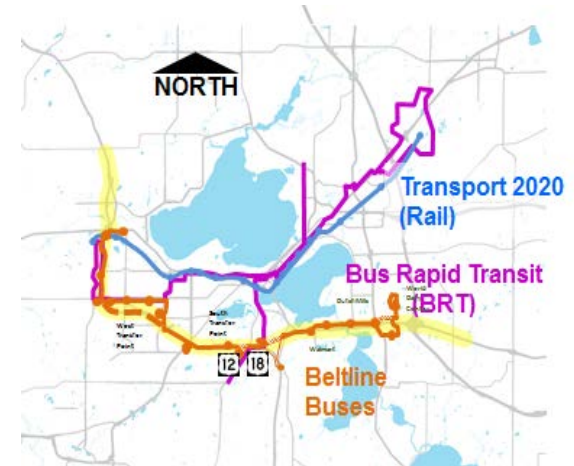
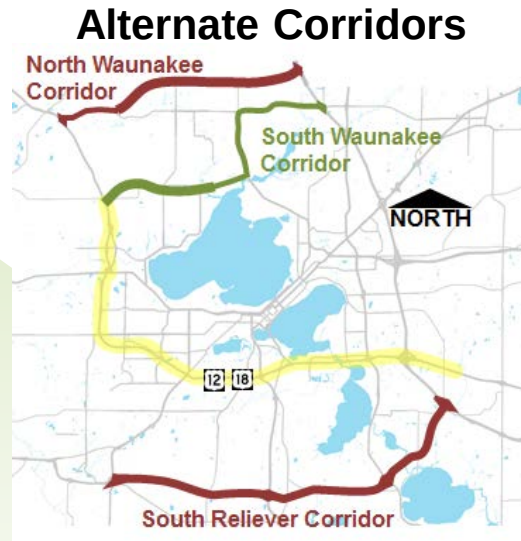
PEL Strategy Development and Analysis



Screening strategies



High Level look at
Broad Range of
Potentially Effective
**Stand-alone
Strategies**



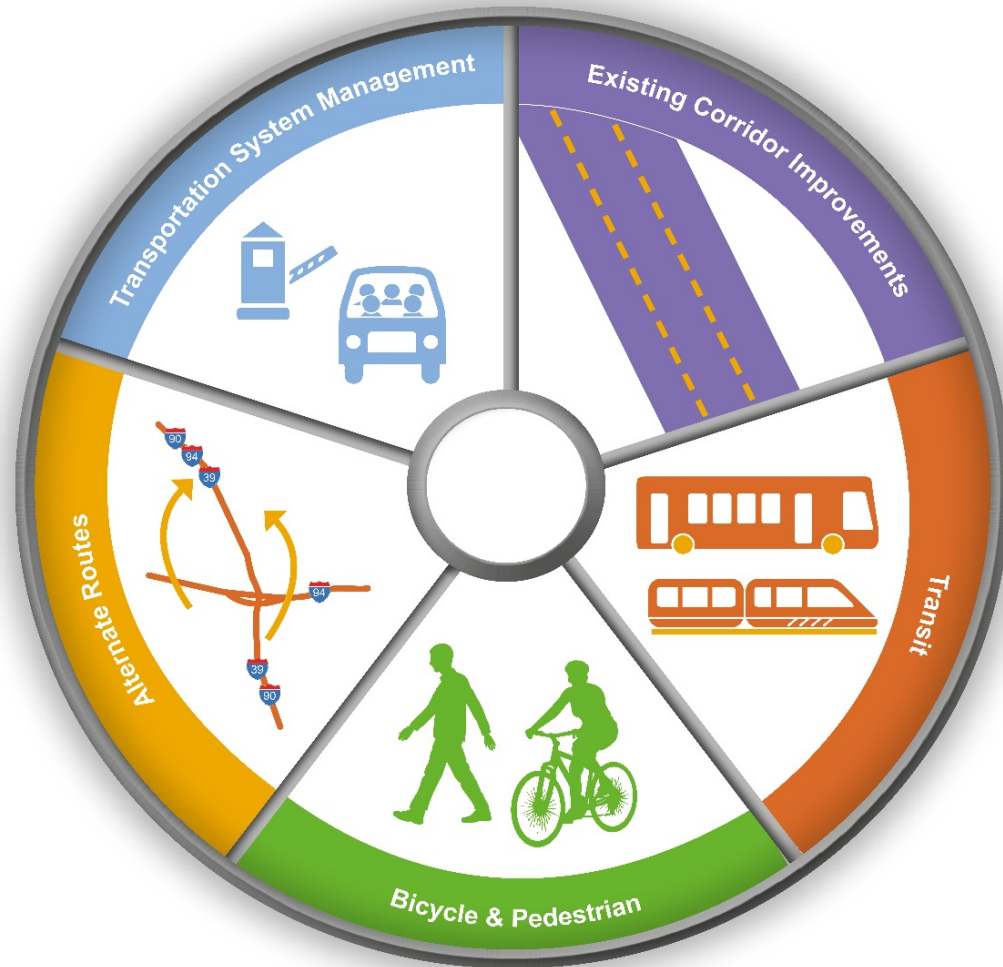
Alternate Modes



More detailed look at
Individual Modal
**Components
and Combinations**



Corridor Concepts and Components



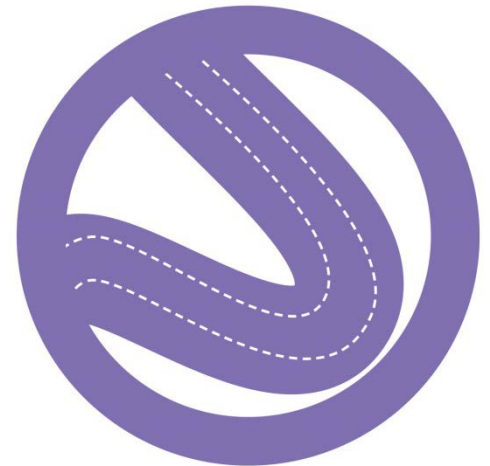
Other Routes

- ▶ Bypass Route Option(s)
- ▶ Reliever Route Option(s)
- ▶ Local System Improvements
 - Parallel Routes
 - “Spokes”



Existing Corridor Improvements

- ▶ Preserve & Maintain (No-Build)
- ▶ Existing Corridor Capacity Expansion
 - Existing Alignment
 - Shift/Expand All East
 - Shift/Expand All West
- ▶ New Interchanges
- ▶ New Grade Separated Crossings



Transit

- ▶ High speed rail
- ▶ Light Rail – Municipality A to Municipality B
- ▶ Modal Centers (Park and Ride with Transit)
- ▶ Inter City Buses
- ▶ Express Commuter Bus
- ▶ Bus Rapid Transit (BRT)
- ▶ Local Bus Route Extensions



Transportation Demand Management

- ▶ Ramp Metering
- ▶ Park and Ride
- ▶ Vanpool
- ▶ Bus on Shoulder
- ▶ Part-time Shoulder Running
- ▶ Reversible Lanes
- ▶ HOV Lane
- ▶ Truck Lane
- ▶ Bus Lane



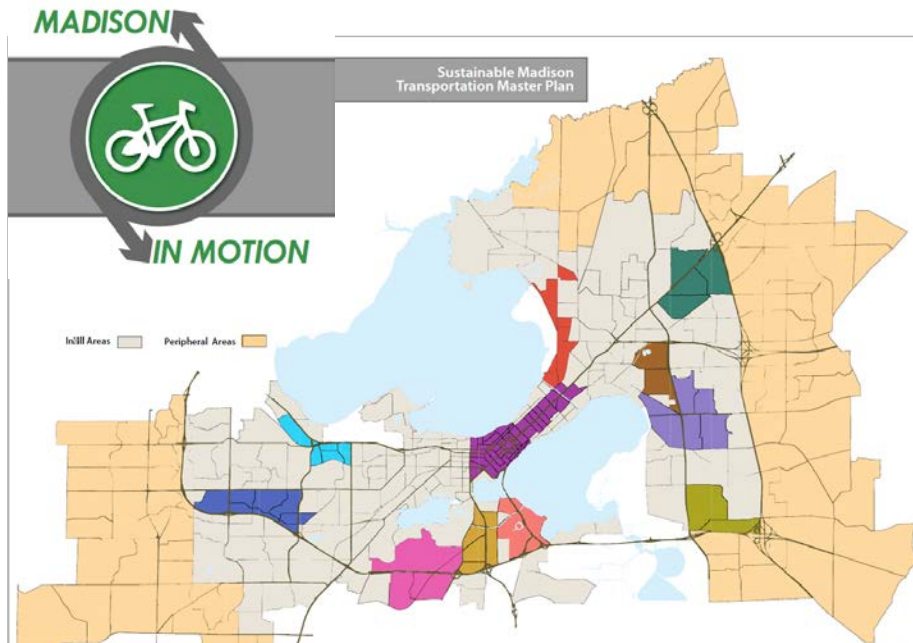
Bicycle & Pedestrian

- ▶ Base Bicycle and Pedestrian Accommodations
- ▶ Local and County Bicycle & Pedestrian Transportation Plans
 - New Bicycle and Pedestrian Connections
 - New Bicycle and Pedestrian Grade Separated Crossings
- ▶ Intersection Crossing Improvements



Scenario Planning

More Compact Land Use



Madison In Motion
Scenario B

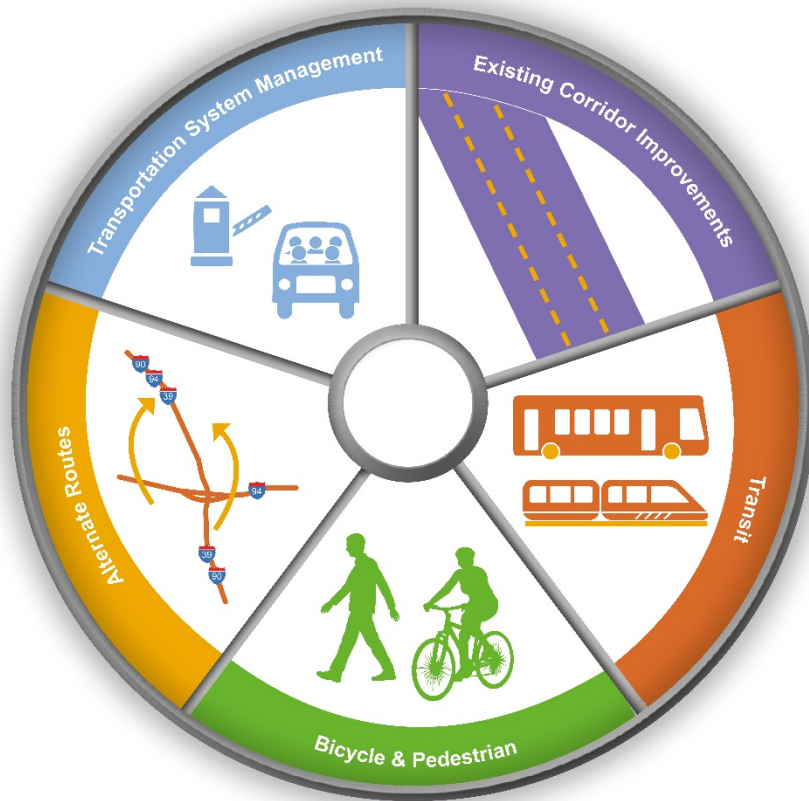
Increased Transit and Bike Ridership



3X Transit and Bike
Ridership



Traffic Screening



- Does the Corridor Concept or Component remove enough traffic from the existing corridor such that the existing freeway would operate at an acceptable level?

1. Estimate
Future Year
Hourly Volume

2. Correlate
Changes in AADT
with Hourly
Volume and LOS

3. Determine the
Minimum
Beneficial Change
in AADT

4. Screen
Alternatives

Traffic Screening Recommendations:

▶ Carry Forward

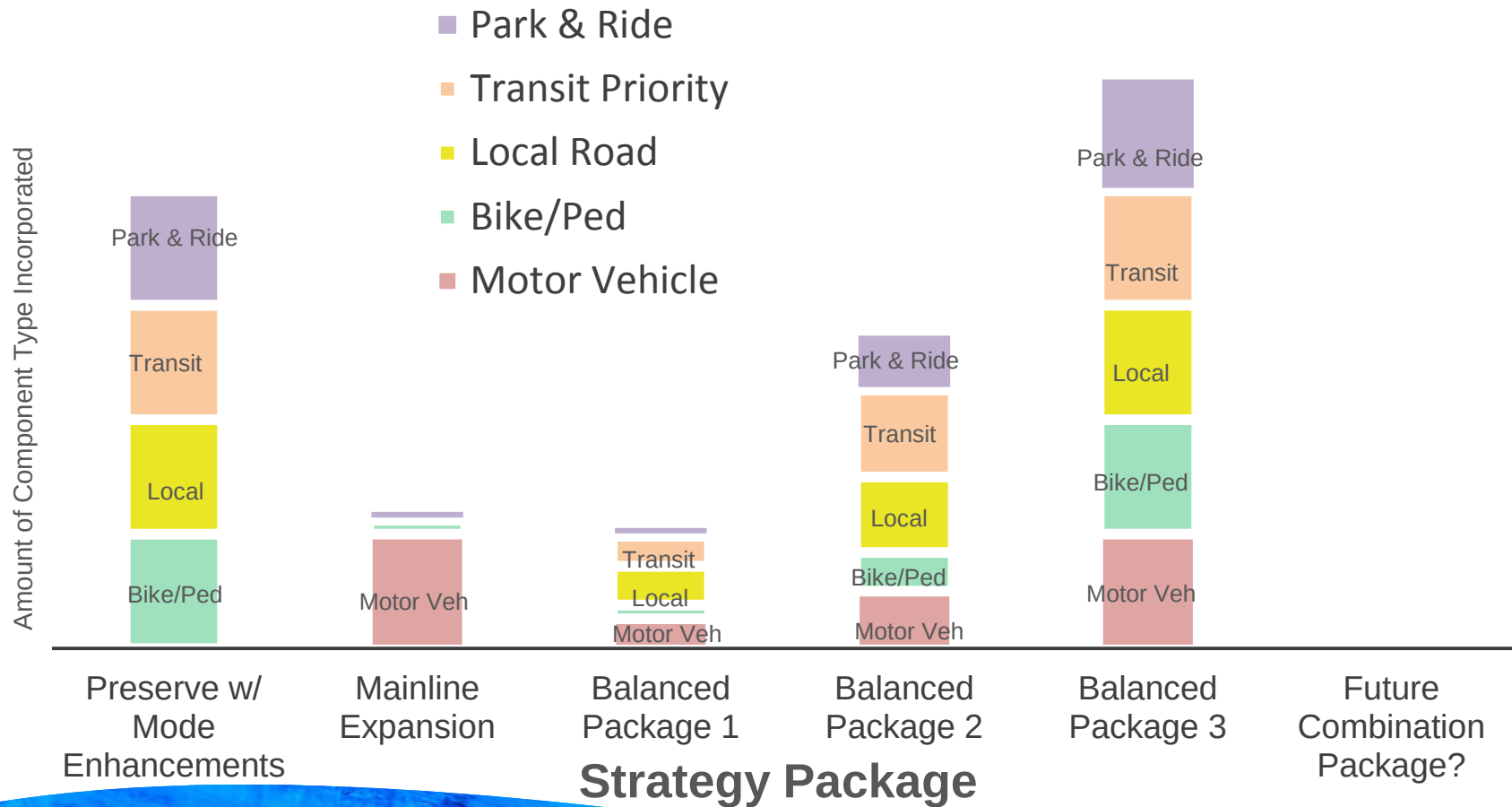
- The concept/component may satisfy a portion of the purpose and need. It will move forward to the next phase of analysis and should be evaluated further as part of a package of concepts/components

▶ Dismiss

- The concept/component does not meet the traffic screen or any of the purpose and need and is dropped from further consideration. Examples:
 - New roads north and south of Beltline
 - New transit systems



Strategy Package Assembly



Balanced Packages

- All packages will have components from all five component categories to satisfy PEL objectives.
- Component combinations will be evaluated to
 - Varied number/level of components per category
 - Varied level of total investment (cost)
 - Varied level of impacts
- Goal: Determine the combination of components that maximizes value to public and satisfies PEL objectives



Next Steps



Questions?

Contact: WisDOT Southwest Region

- ▶ Brandon Lamers, WisDOT Project Supervisor
 - (608) 246-3852
- ▶ Larry Barta, WisDOT Project Manager
 - (608) 246-3884
- ▶ Rob Knorr, WisDOT Project Manager
 - (608) 246-5444

www.madisonbeltline.dot.wi.gov



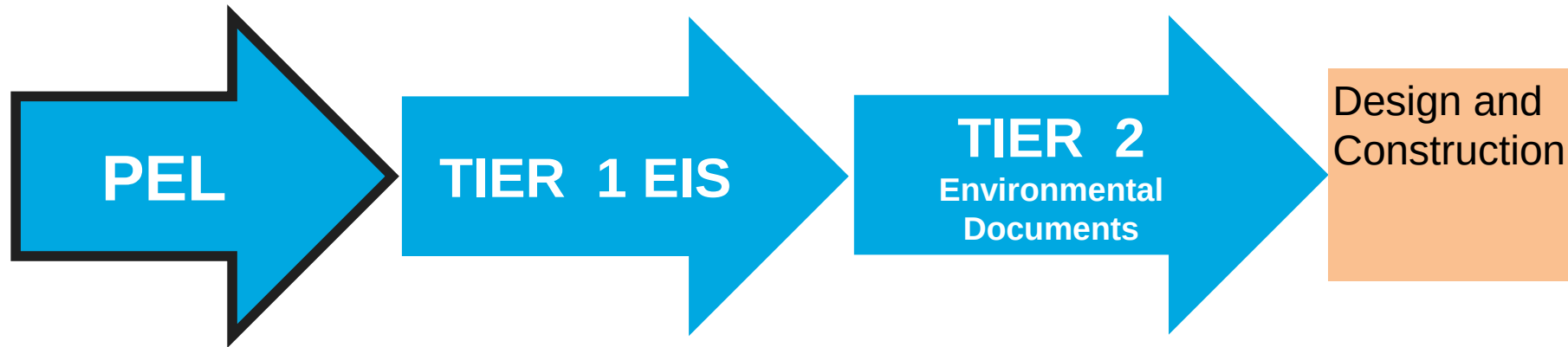
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Beltline PEL to Tiered EIS Process



Screen and Eliminate unreasonable or ineffective components

Select general modes

Adopt PEL Findings

Select preferred corridor alternative.

Select general component locations, including crossings, bike/ped, etc.

Select general Beltline corridor capacity goal

Identify corridor sections for Tier 2 analysis

For each Tier 2 Section
(likely [multiple documents](#))

Analyze and document specific alternative geometry and impacts of all components

Select specific Preferred Alternative

2016

2017-18

2022

2025+

Tier 1 EIS Summary

- ▶ Process
- ▶ Public and Agency Involvement
- ▶ Impact Identification
- ▶ Alternative Corridor Development
- ▶ Ineffective or unreasonable corridors and concepts eliminated
- ▶ Preferred Corridor Identification/Selection
- ▶ Tier 2 Sections & Document Type

