



MADISON MULTIMODAL TRANSPORTATION PLAN





What is Madison in Motion?: Overview



Madison in Motion: Multi-Modal Transportation Plan

What does Multi-Modal mean?

→ **Auto (passenger cars/trucks)**

→ **Parking Facilities**

→ **Public Transit (Metro; other?)**

→ **Bicycle**

→ **Pedestrian**

- Intercity Bus (Van Galder, Badger, Greyhound)

- Air

- Freight (Truck, Rail)



Madison in Motion: Overview/Purpose

- Help Create Walkable, Bikeable, Livable City
 - Strengthen **Neighborhoods**: Existing and New Development
 - Emphasize **Transportation Choices** and Mode **Connectivity**
 - Support Madison's **Community Vision**
- Resource for Transportation Decision-Making
 - Strategic **Implementation Plan**
- 2-Year Planning Process
 - Madison in Motion **Oversight Committee**
 - Strong **Public/Stakeholder Participation**
 - **Partner Agency** Coordination: WisDOT, Madison Area MPO



Madison in Motion: Overview/Purpose

→ The Transportation Master Plan: **Builds Upon Existing Transportation Plans** and other Adopted City of Madison Plans/Policies

→ Existing/Concurrent Plans

- **Land Use/Neighborhood Plans/Special Area Plans**

- Numerous **Transportation Plans** (City/Regional – Street/Highway, Bicycle, Metro Transit, etc.)

- **Improve Coordination and Connectivity**



Madison in Motion: Overview/Purpose

→ Emerging Issues: Madison in Motion

- Technological Advances
- Demographic Changes and Behavioral Trends
- Emerging Equity Challenges
- Health Impacts of Transportation
- Changing Economy: City's Strategy/Goals



*Land Use,
Growth &
Development*

MADISON



IN MOTION

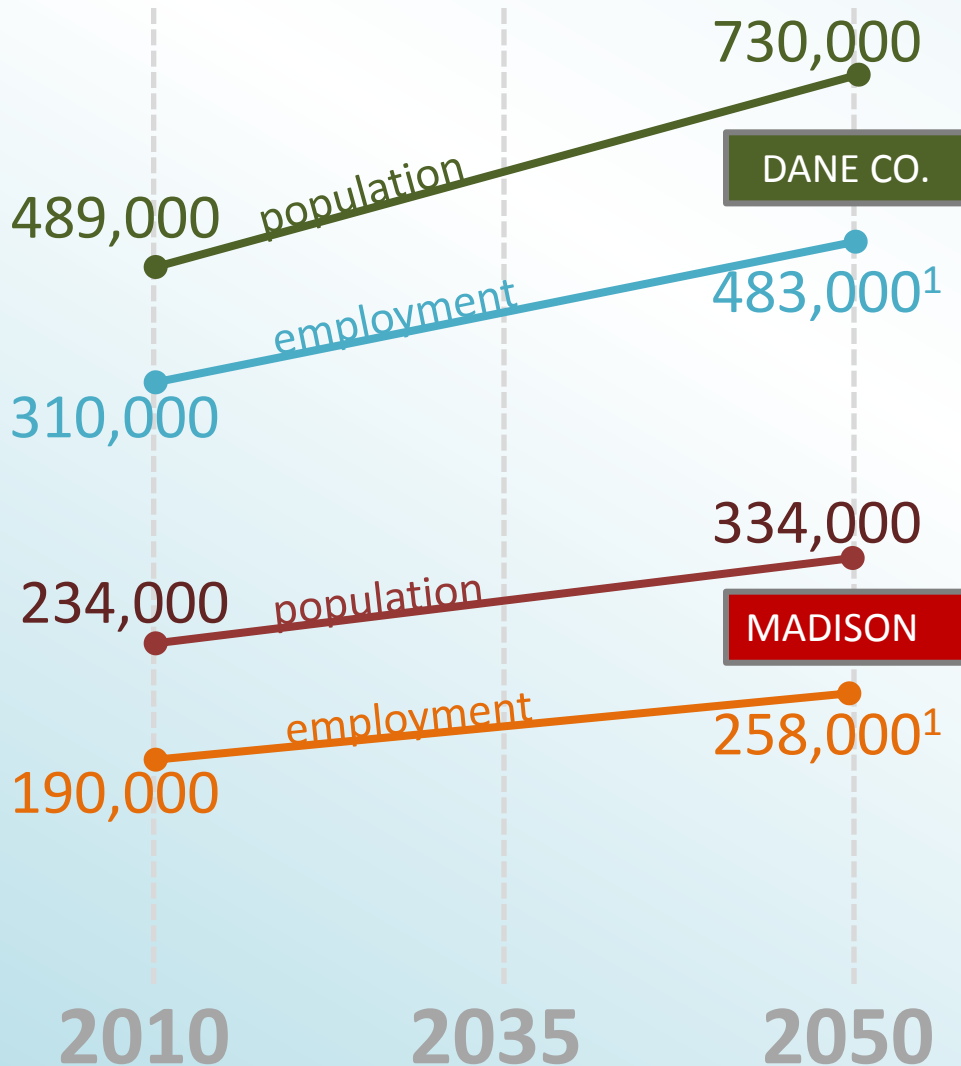
MADISON



IN MOTION

*Emerging Trends
affecting
Transportation*

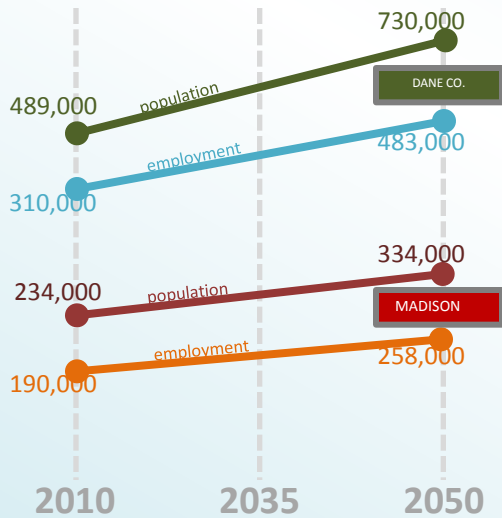
City/Regional Growth Assumptions



- Dane County adds 60,000/decade
- City growth 25,000/decade

(¹Source: 2035 Regional Transportation Plan Update, Madison Area Transportation Planning Board 2012.)

Madison Area Growth



- The Madison area is growing
 - Epic plans to add 800/year for next 4 - 5 years
 - Health care footprint is growing
 - Innovation ecosystem/technology sector
 - Youthful workforce pipeline – UW/Madison College/Edgewood
- Madison's geographic form shapes our options
- Neighborhoods value stability above change
- Madison's growth is limited to a handful of areas
- Surrounded by aggressive growth communities
- Prime agricultural land; environmental resources



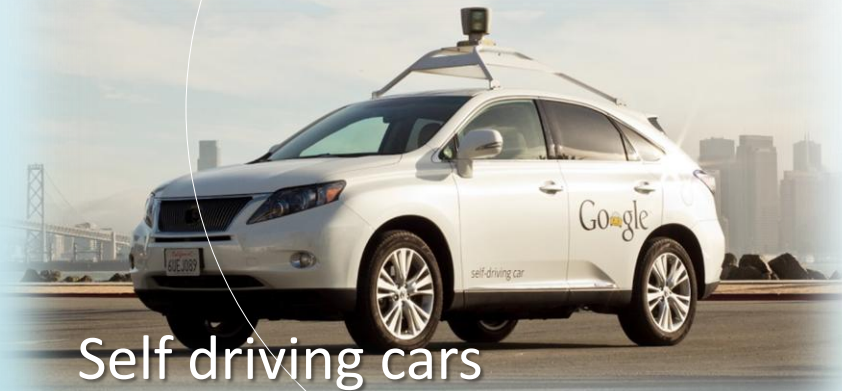
Technology Trends



• Smart Phones, apps and IT advancements



Car/Bicycle Sharing



Self driving cars



Demographic & Behavioral Trends

Baby Boomers



Millennial Adults



Online shopping and consumerism

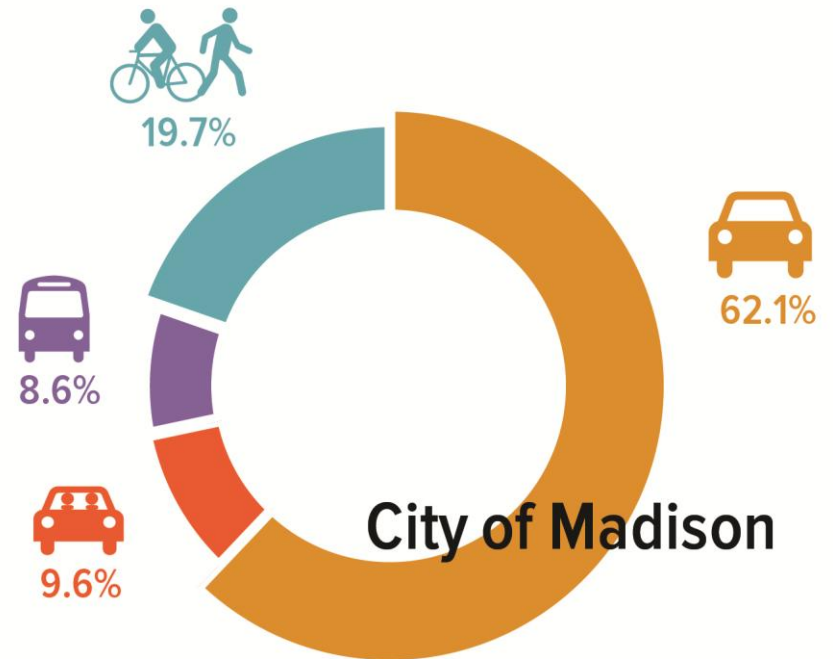
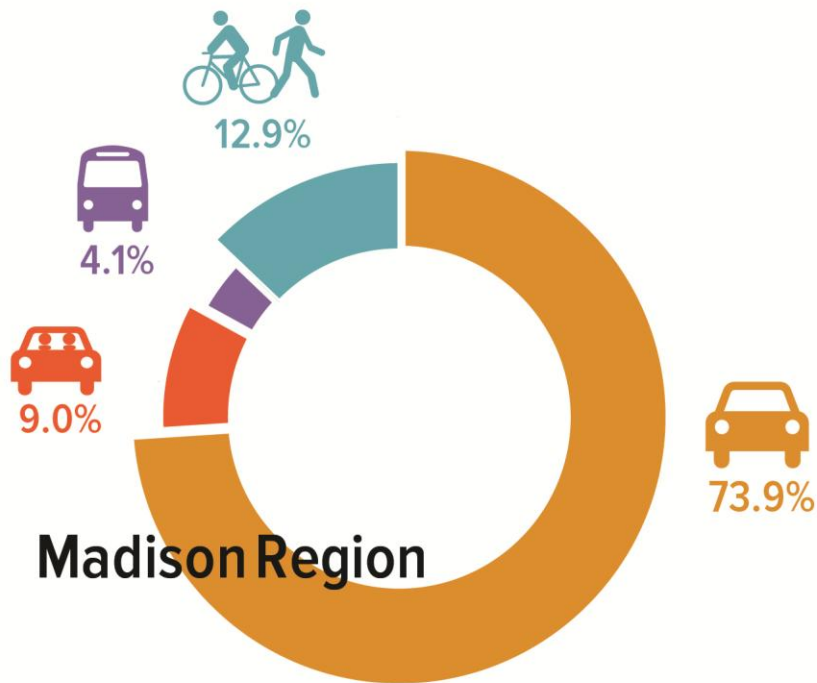


Key Project Issues & Concerns

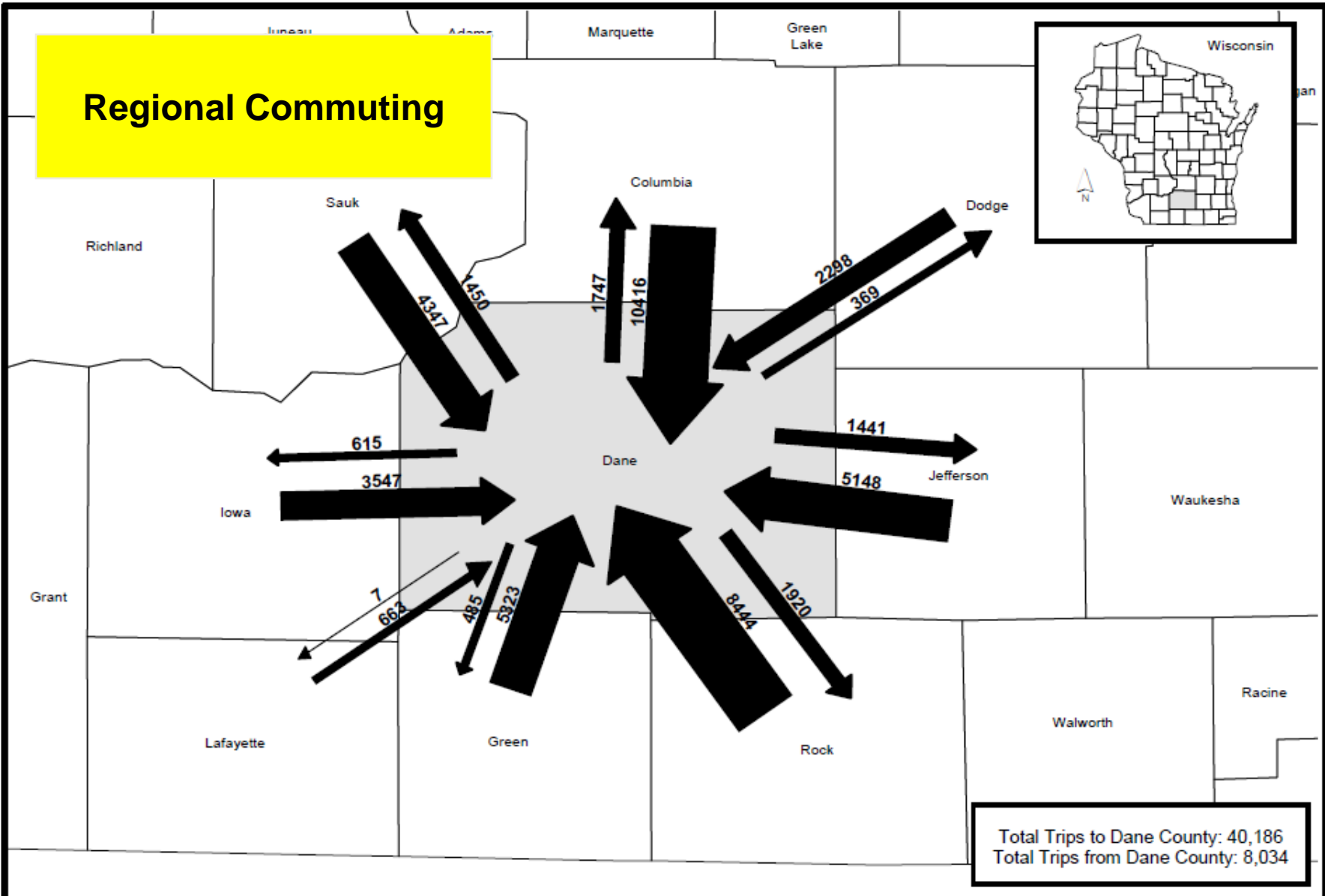
- Manage growth and economy, protect neighborhoods and critical environmental resources (**balance compact urban redevelopment and new edge growth**)
- Relatively small amount of growth area remains in Madison (redevelopment and new edge)
- Transportation system capacity - need to accommodate growing demand
- Challenges of low-income residents/equity issues
- Demographic and technological change
- Regional commuting to Madison
- Long-term costs/revenue sources for transportation



How do area residents travel to work?



Regional Commuting



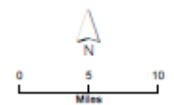
Total Trips to Dane County: 40,186
 Total Trips from Dane County: 8,034

Daily Work Trip Commuting between Dane County and Adjacent Counties: 2006-2010

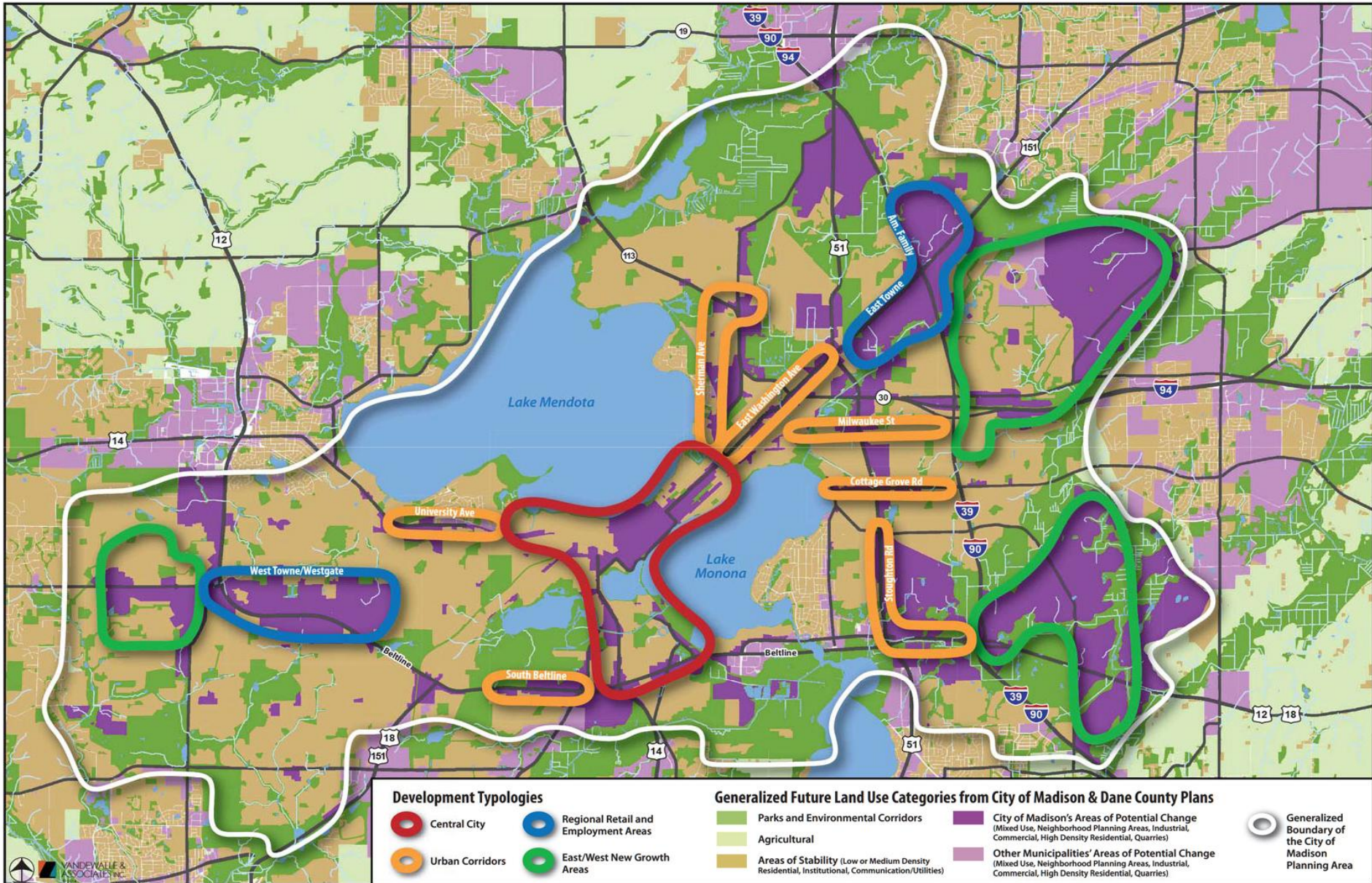
Source: U.S. Census Bureau, 2006-2010 American Community Survey (ACS).

Prepared by staff to the:
 Madison Area
T.P.B.
 Transportation Planning Board
 Metropolitan Planning Organization (MPO)

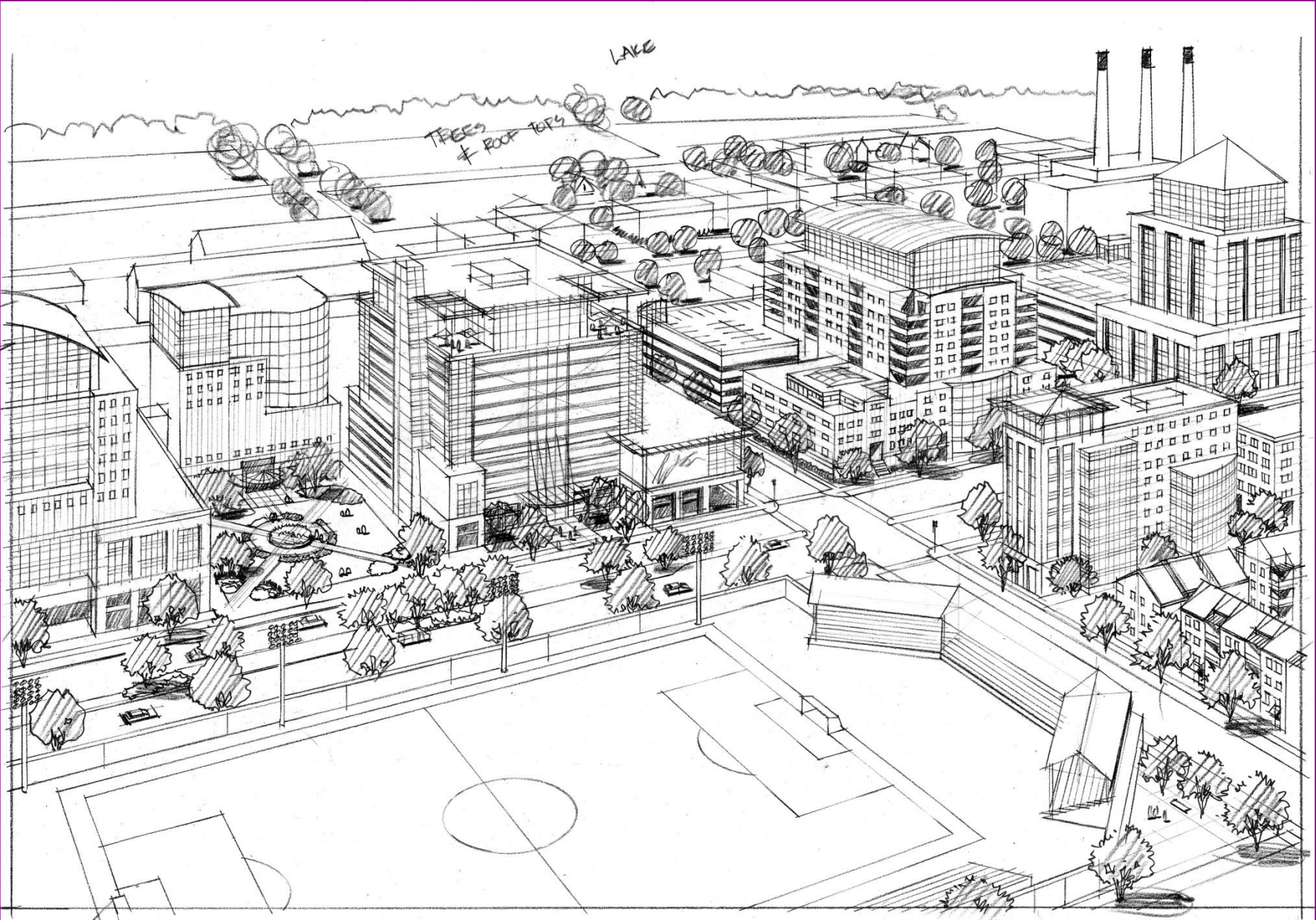
Date: 3/6/2013



Limited Growth Areas in Madison



East Rail Corridor: Redevelopment Concepts



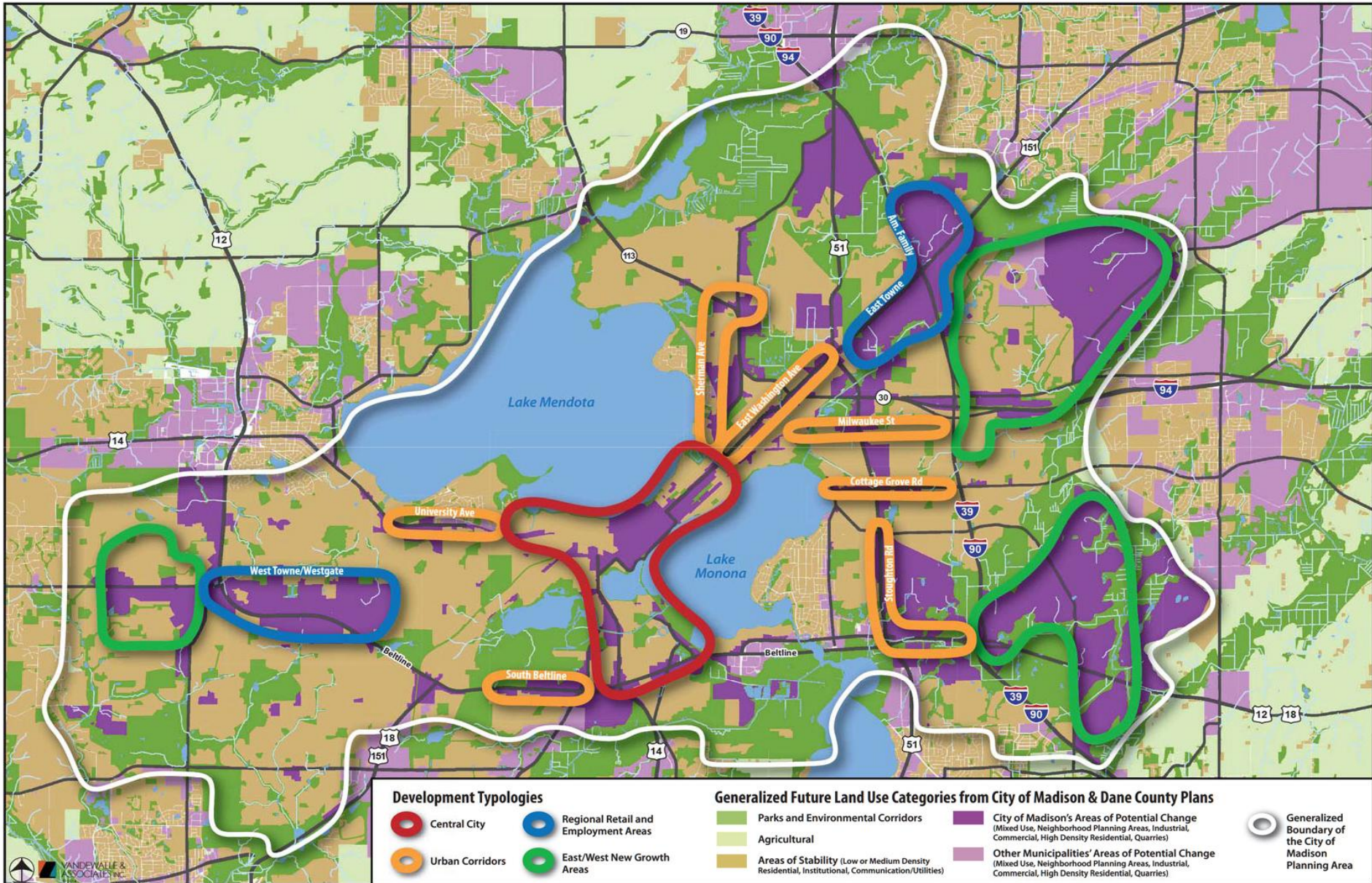
East Rail Corridor: Redevelopment Concepts



Livable Neighborhood Development Concepts



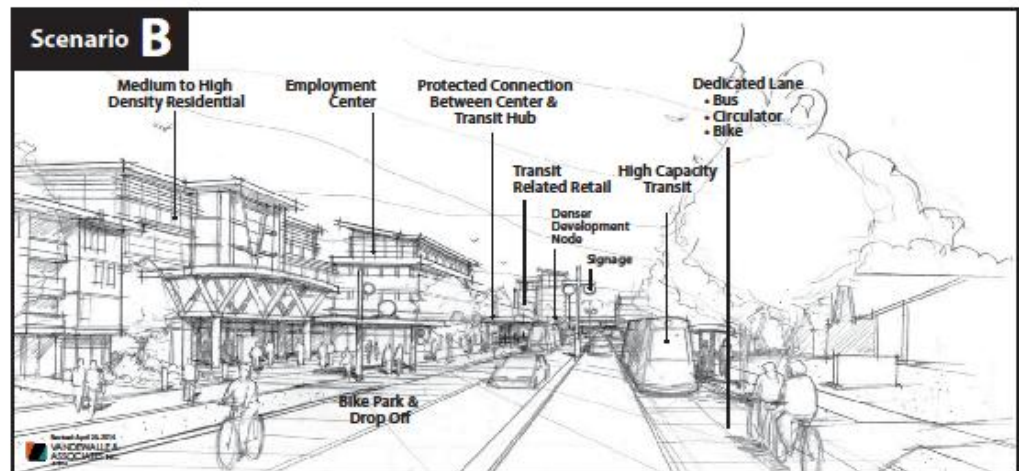
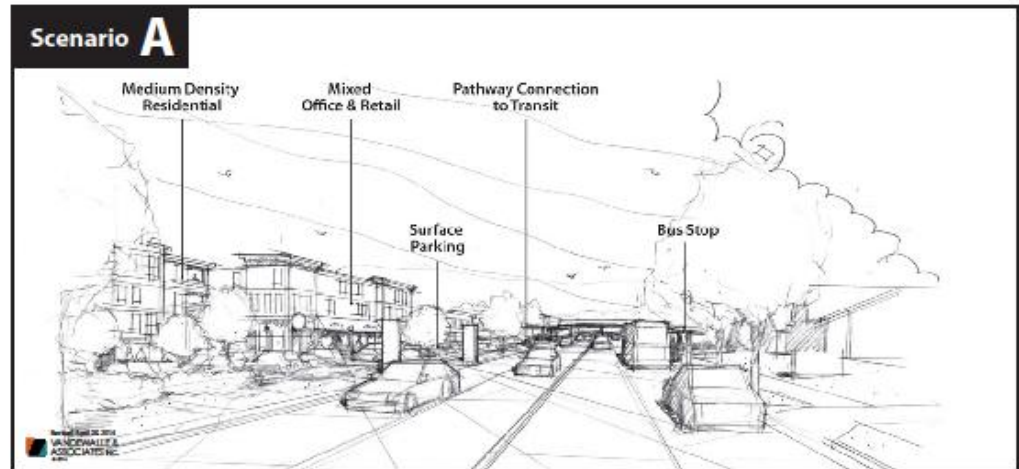
Activity Centers: Limited Growth Areas



“Activity Center” Concept

- Transit-Oriented Development
- High density **mix of land uses** (commercial, residential, community services, etc.)
- **High frequency transit** services/**transfer** opportunities
- Structured auto parking to support development (possible **park-and-ride for commuters**)
- Secure **bicycle parking**
- Engaging **pedestrian environment** (lighting, streetscapes, etc.)

Milwaukee Street - An Urban Corridor Example





“Activity Center” Concept: An Example



“Activity Center” Concept: Examples



“Activity Center” Concept: An Example



General Scenario Assumptions

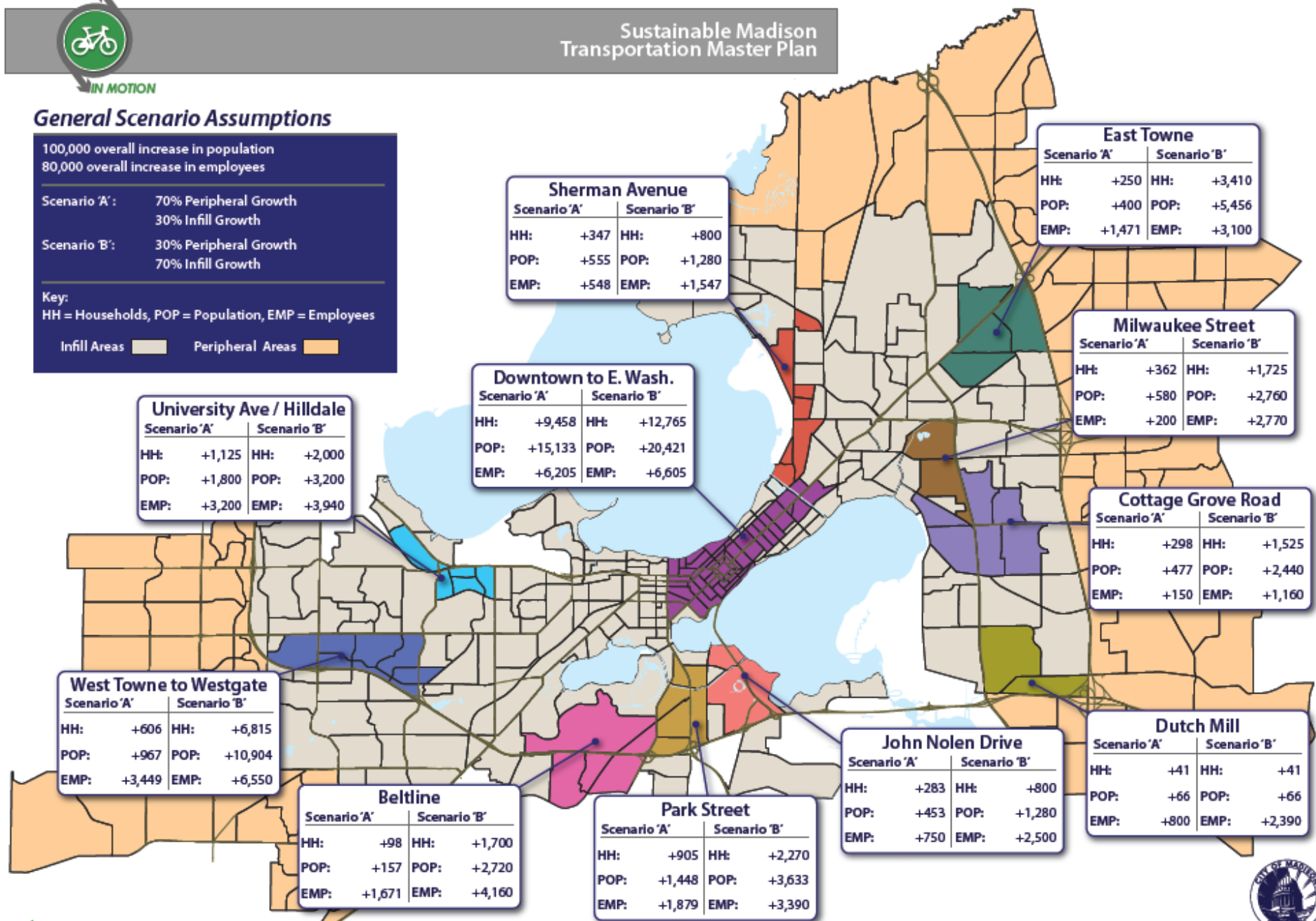
100,000 overall increase in population
80,000 overall increase in employees

Scenario 'A': 70% Peripheral Growth
30% Infill Growth

Scenario 'B': 30% Peripheral Growth
70% Infill Growth

Key:
HH = Households, POP = Population, EMP = Employees

Infill Areas Peripheral Areas



Sherman Avenue

Scenario 'A'	Scenario 'B'
HH: +347	HH: +800
POP: +555	POP: +1,280
EMP: +548	EMP: +1,547

East Towne

Scenario 'A'	Scenario 'B'
HH: +250	HH: +3,410
POP: +400	POP: +5,456
EMP: +1,471	EMP: +3,100

Milwaukee Street

Scenario 'A'	Scenario 'B'
HH: +362	HH: +1,725
POP: +580	POP: +2,760
EMP: +200	EMP: +2,770

Downtown to E. Wash.

Scenario 'A'	Scenario 'B'
HH: +9,458	HH: +12,765
POP: +15,133	POP: +20,421
EMP: +6,205	EMP: +6,605

University Ave / Hilldale

Scenario 'A'	Scenario 'B'
HH: +1,125	HH: +2,000
POP: +1,800	POP: +3,200
EMP: +3,200	EMP: +3,940

Cottage Grove Road

Scenario 'A'	Scenario 'B'
HH: +298	HH: +1,525
POP: +477	POP: +2,440
EMP: +150	EMP: +1,160

West Towne to Westgate

Scenario 'A'	Scenario 'B'
HH: +606	HH: +6,815
POP: +967	POP: +10,904
EMP: +3,449	EMP: +6,550

Beltline

Scenario 'A'	Scenario 'B'
HH: +98	HH: +1,700
POP: +157	POP: +2,720
EMP: +1,671	EMP: +4,160

Park Street

Scenario 'A'	Scenario 'B'
HH: +905	HH: +2,270
POP: +1,448	POP: +3,633
EMP: +1,879	EMP: +3,390

John Nolen Drive

Scenario 'A'	Scenario 'B'
HH: +283	HH: +800
POP: +453	POP: +1,280
EMP: +750	EMP: +2,500

Dutch Mill

Scenario 'A'	Scenario 'B'
HH: +41	HH: +41
POP: +66	POP: +66
EMP: +800	EMP: +2,390





Potential Activity Center/Redevelopment Area



Potential Activity Center/Redevelopment Area



OPTION ONE

WESTGATE AREA CONCEPTUAL STUDY

Prepared by City Of Madison Planning Division

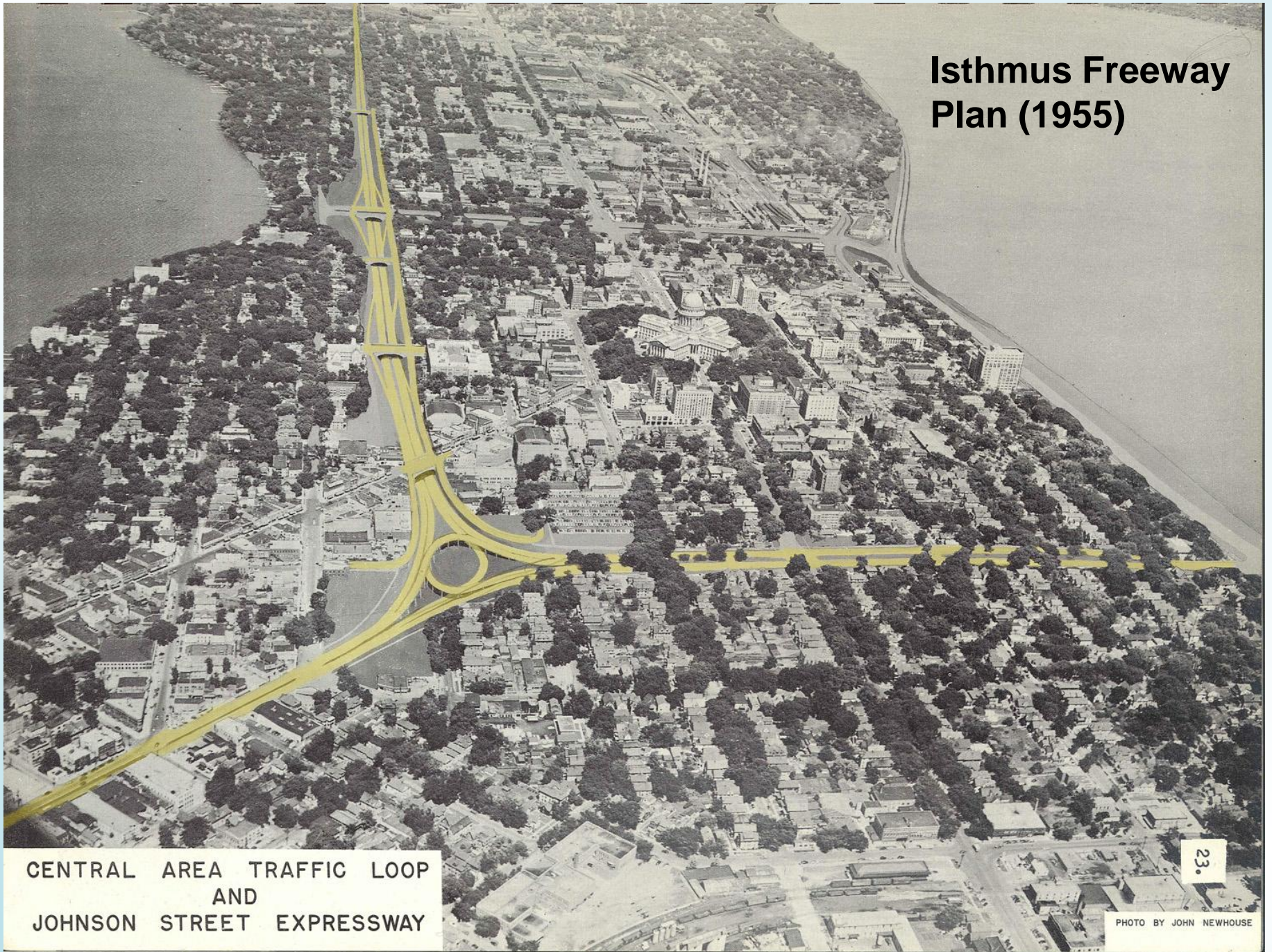
November 13, 2013

“Activity Center” Concept: Westgate

Streets and Roadways



Isthmus Freeway Plan (1955)



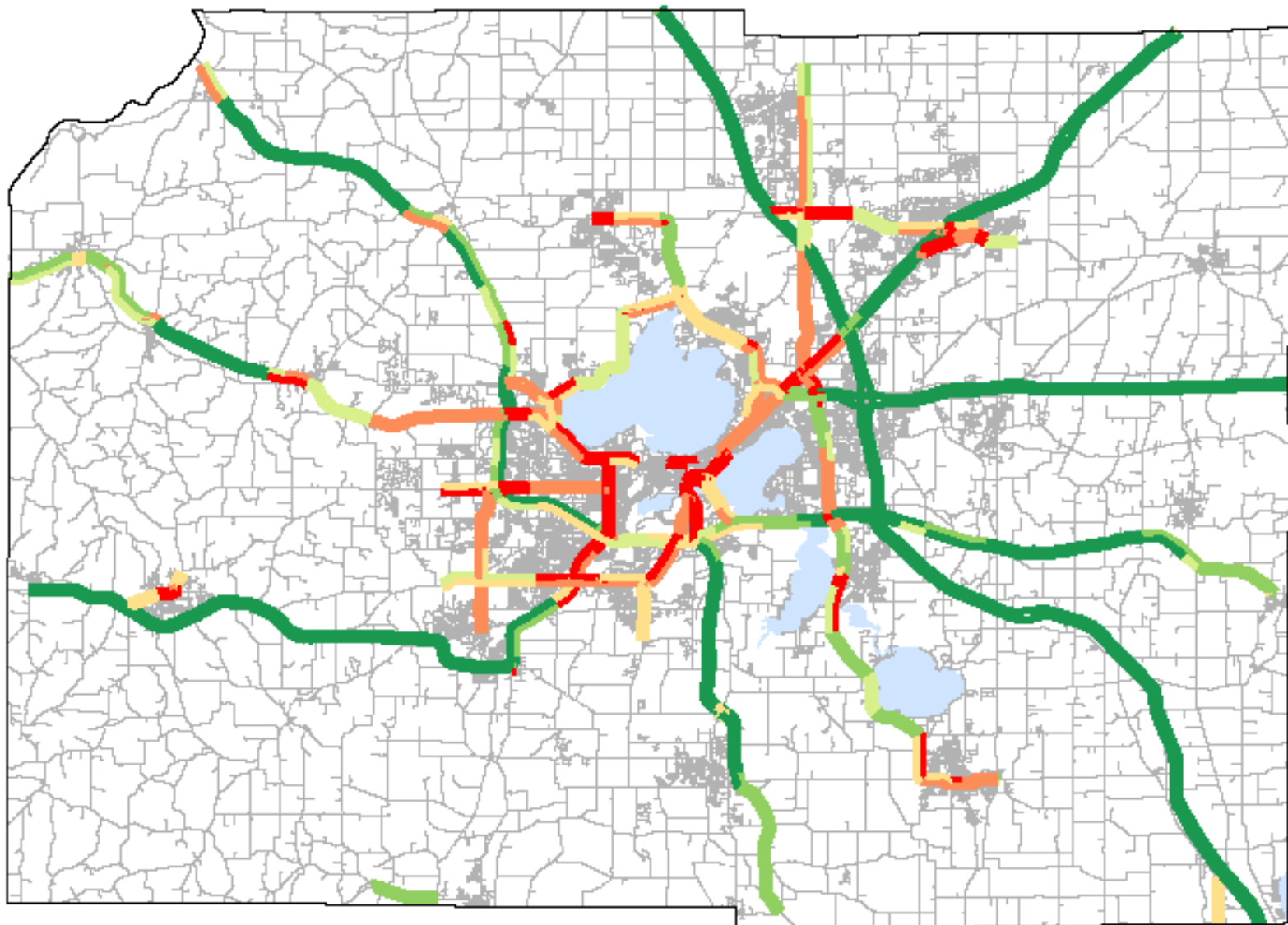
CENTRAL AREA TRAFFIC LOOP
AND
JOHNSON STREET EXPRESSWAY

Madison in Motion







Streets and Roadways: Assumptions & Goals


- Commitment to maintaining **high quality pavement** conditions - emphasis on **repair of existing streets**
- Ability to add new roadway capacity (new travel lanes) severely limited in Central Area of the City; **new capacity only in select areas on periphery**
- “**Complete Streets**” design approach (bike, ped, transit)
- Utilize **State-of-the-Art Technologies** and innovative roadway designs

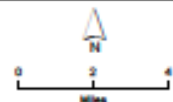




Average Traffic Speed (MPH) by Direction
 4 PM to 5 PM Weekdays, October, 2013
 Dane County, Wisconsin
 Source: National Performance Management Research Data Set (NPMRDS)

- | | | | |
|---|---------|---|---------|
|  | 0 - 15 |  | 36 - 45 |
|  | 16 - 25 |  | 46 - 55 |
|  | 26 - 35 |  | 56 - 69 |

Prepared by staff to the

 Date Revised: 7/8/2014





Complete Streets Principles: Arterial



Complete Streets Principles

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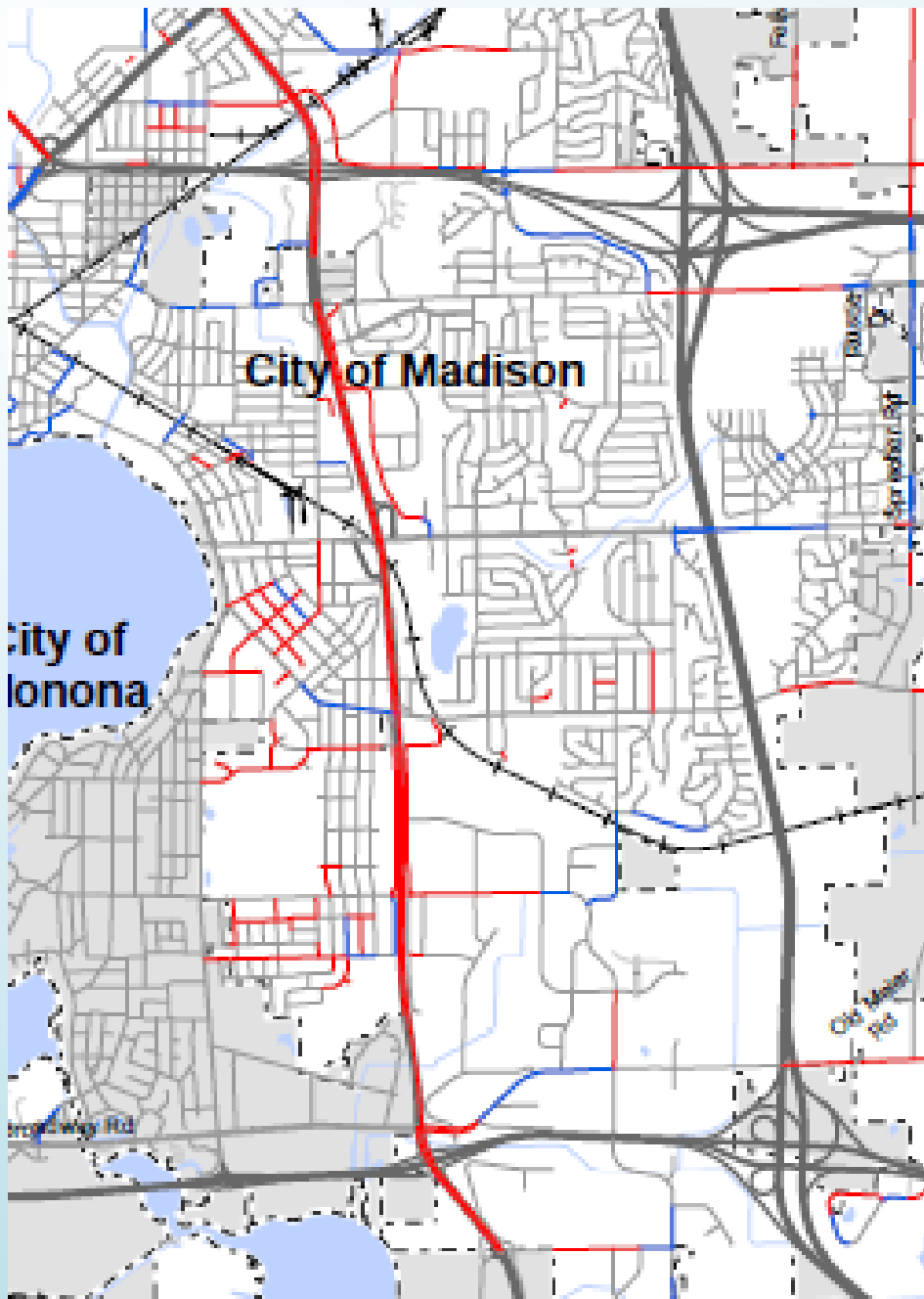
Pedestrian Network

Multi-Modal Transportation System Alternatives

Pedestrian Facilities

- Address **barriers** to pedestrian mobility
- Identify where **key linkages** in the pedestrian network are missing

→ Identify priority locations **for new/improved pedestrian facilities**



Sidewalk Evaluation: East Side

MADISON



IN MOTION





Healthy Pedestrian Environment



Bicycle Network

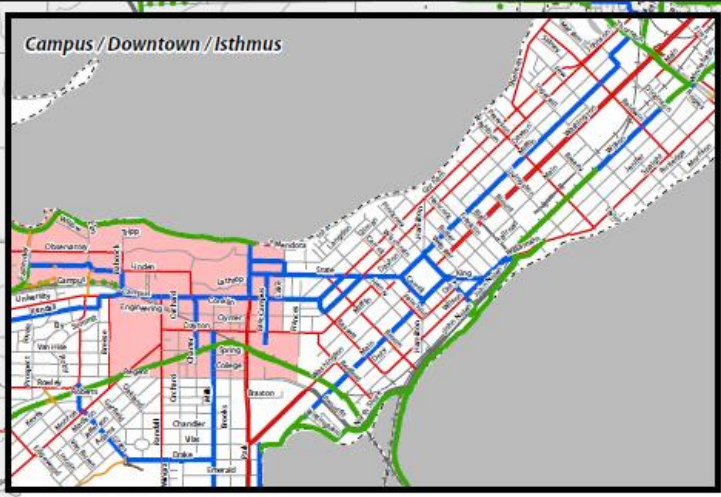


Multi-Modal Transportation System Alternatives

Bicycle Facilities

- Separate bicycle systems for different user types (**on-street lanes** and **off-street paths**)
- Identify **system gaps/barriers** to bicycle mobility
- Evaluate mode connectivity opportunities (**park-and-bike** and **bike-and-transit**)
- Evaluate **state-of-the-art technologies** and **innovative facilities**





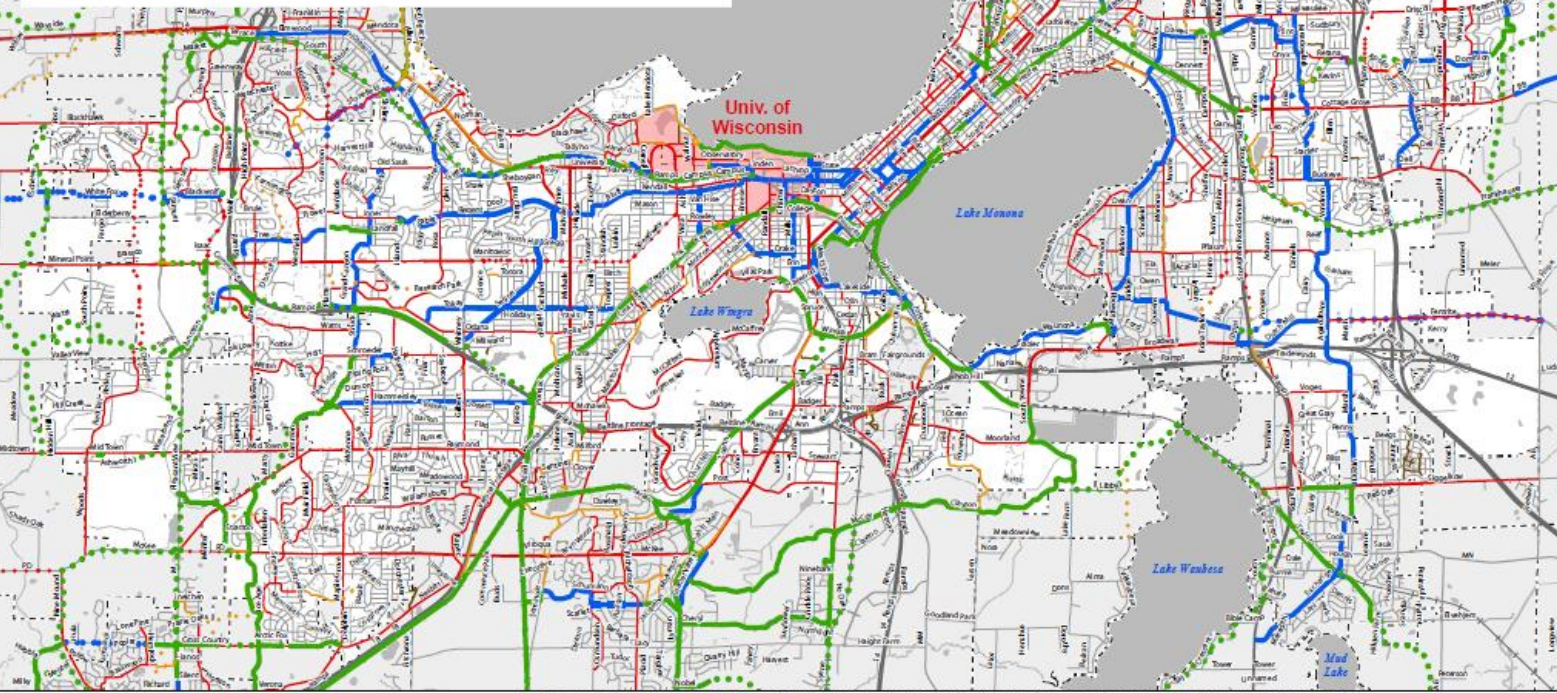
This is a draft map of a functional classification of streets and paths for bicycle use in Madison. Areas outside of Madison have not been fully classified, but will be by the MPO. The functional class is based on the following characteristics:

- Primary Routes**
- Defined bikeways such as paths, cycle tracks, bicycle lanes or bicycle boulevards
 - Appealing to cyclists of varying skills and comfort levels
 - Likely to be on lower-volume, lower-speed streets when functioning as on-street bikeways (sometimes parallel to a Secondary Bikeway on a busier street)
 - Includes wayfinding signage
 - Likely to attract and carry high bicycle volumes
 - Allow for longer, continuous trips
 - Relatively direct

- Secondary Routes**
- Likely to be defined bikeways such as paths, lanes or connecting local streets
 - Include neighborhood connector routes
 - Typically carry moderate volumes of bicycle traffic
 - May include higher-volume, higher-speed motor vehicle routes with bicycle facilities that parallel Primary Bikeways
 - Provide direct access to more destinations than Primary Bikeways
 - Likely to serve major destinations as well as neighborhood centers, local retail and other local attractions

- Legend**
- Primary Bikeway - Path
 - Primary Bikeway - Street
 - Planned Primary Bikeway - Path
 - Planned Primary Bikeway - Street
 - Secondary Bikeway - Path
 - Secondary Bikeway - Street
 - Planned Secondary Bikeway - Path
 - Planned Secondary Bikeway - Street
 - Uncoded Street
 - Uncoded Path
 - Railroad

0 0.5 1 2 Miles



Data provided by the City of Madison, Madison Area MPO, and the U.S. Census Bureau. This map is provided "as-is" for informational purposes and no guarantee is made as to the accuracy of the map or data.

Bicycle System/Functional Classification Map

*Off-Street
Bicycle
Facilities*





Innovative Bicycle Facilities





Innovative Bicycle Facilities

Addressing System Gaps & Barriers



MADISON **B**cycle™



ACTIVE B-STATIONS

1. Wisconsin Ave. & E. Mifflin St.
2. N. Webster St. & E. Mifflin St.
3. E. Doty St. & S. Pinckney St.
4. S. Hamilton St. & W. Main St.
5. MLK & E. Wilson St.
6. W. Wilson & MLK
7. N. Park St. & Spring St.

8. S. Breese Ter. @ Camp Randall
9. John Nolen Dr. @ Law Park
10. N. Park St. @ Memorial Union
11. Hawthorne Ct. & State St.
12. E. Gorham St. @ J. Madison Park
13. W. Gilman St. @ Peace Park
14. N. Shore @ Brittingham Park
15. E. Gorham St. & N. Breary St.

16. Eastwood Dr. & Division St.
17. Sheraton Hotel
18. Olbriich Gardens
19. N. Thornton Ave. @ Tenney Park
20. S. Few St. & Williamson St.
21. Observatory Dr. @ Natatorium Gym
22. Observatory Dr. @ UW Hospital
23. Union South

24. Vilas Park @ Arboretum Dr.
25. University Ave. & Charter St.
26. W. Washington Ave. & Regent St.
27. Wisconsin Ave. & W. Johnson St.
28. Williamson St. & Jenifer St.
29. Harrison St. & Monroe St.
30. N. Lake St. & University Ave.
31. Knickerbocker St. & Monroe St.

32. N. Lake St. & Langdon
33. University Ave. & Bassett St.
34. W. Mifflin St. @ Central Library
35. Highland Ave. @ University Children's Hospital
36. University Ave. @ University Station Clinic
37. University Ave. @ UW Credit Union
38. N. Midvale Blvd. @ Hilldale Shopping Center
39. University Row @ UW Digestive Center



madisonbicycle.com
Customer Service: (800) 473-4743



Public Transit

Multi-Modal Transportation System Alternatives

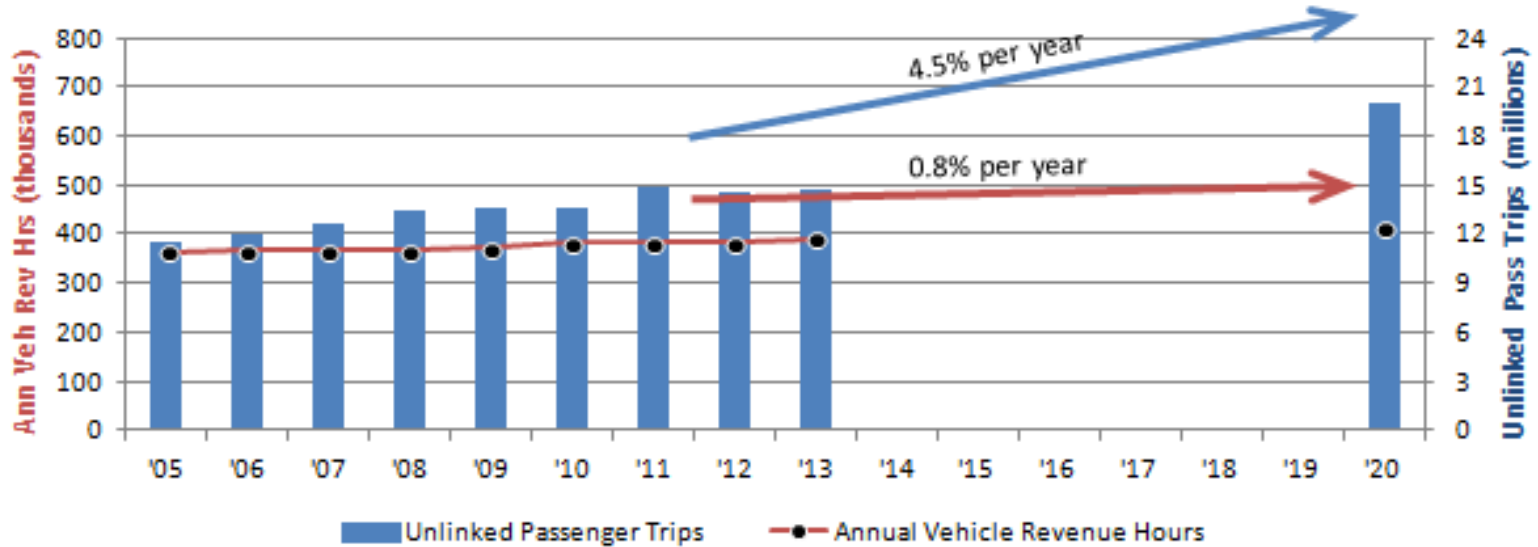
Public Transit Evaluation

- **Bus Rapid Transit (BRT)** concept
- **Park-and-ride** opportunities
- **Central Area circulator** system
- **Intercity bus/intermodal terminal** locations
- **Express bus** service (to Dane County communities)





Madison Metro Transit Fixed Route Service and Ridership



Bus Rapid Transit (BRT)

Madison Urban Area System Proposal



Bus Rapid Transit (BRT)

Conceptual Elements

BRT vs. Local Bus (differing characteristics)

- Direct Routes/Fewer Stops
- Simple, Frequent All-Day Service (every 10-15 min.)
- Branded Stations and Buses
- Transit Signal Priority
- Off-Board Fare Payment
- Bus-Only Lanes (median or curb; full or partial)



Kansas City MAX (from KCATV)



Hawlands & Co.
www.hc8d.com

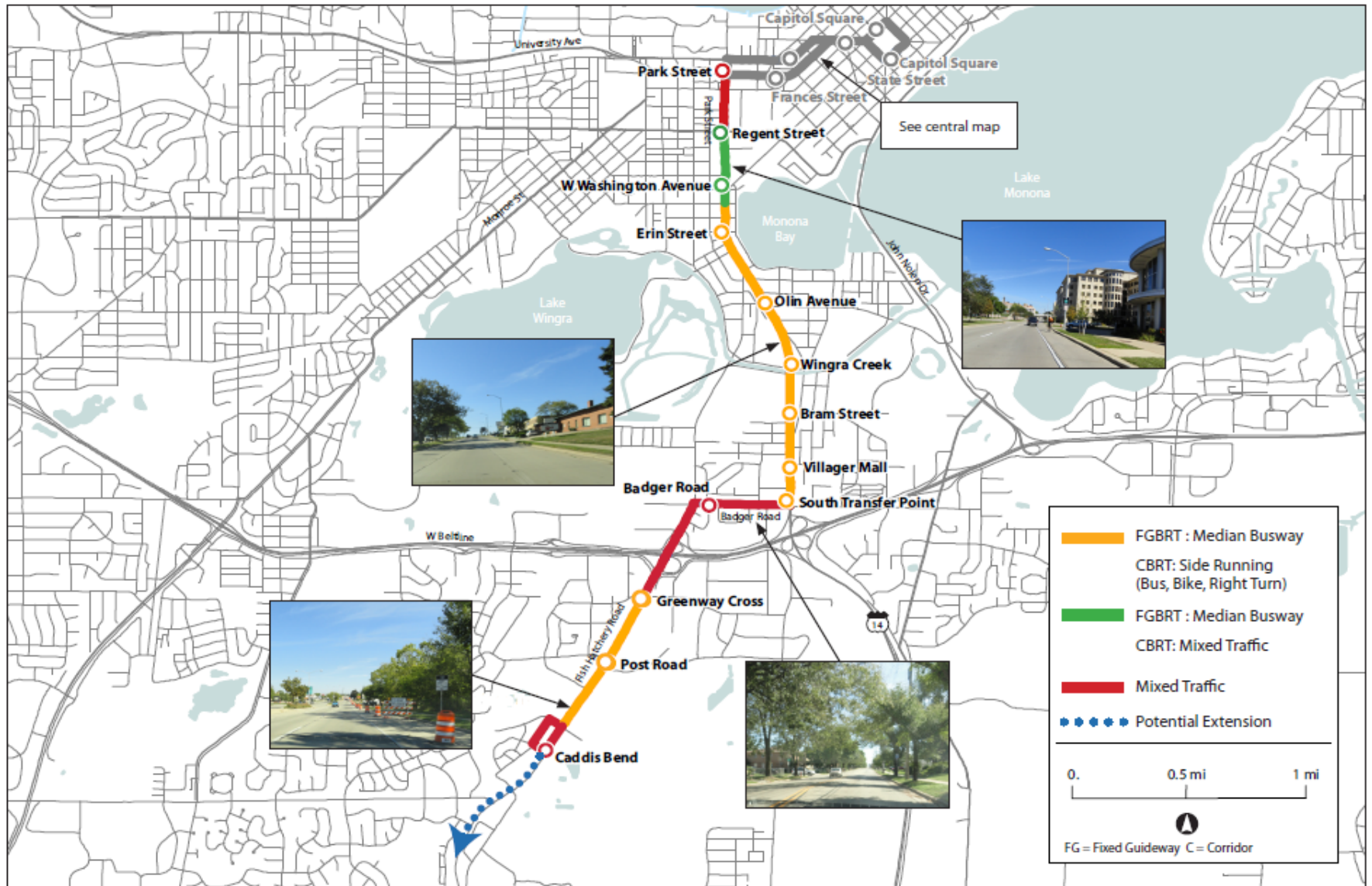


Bus Rapid Transit (BRT)

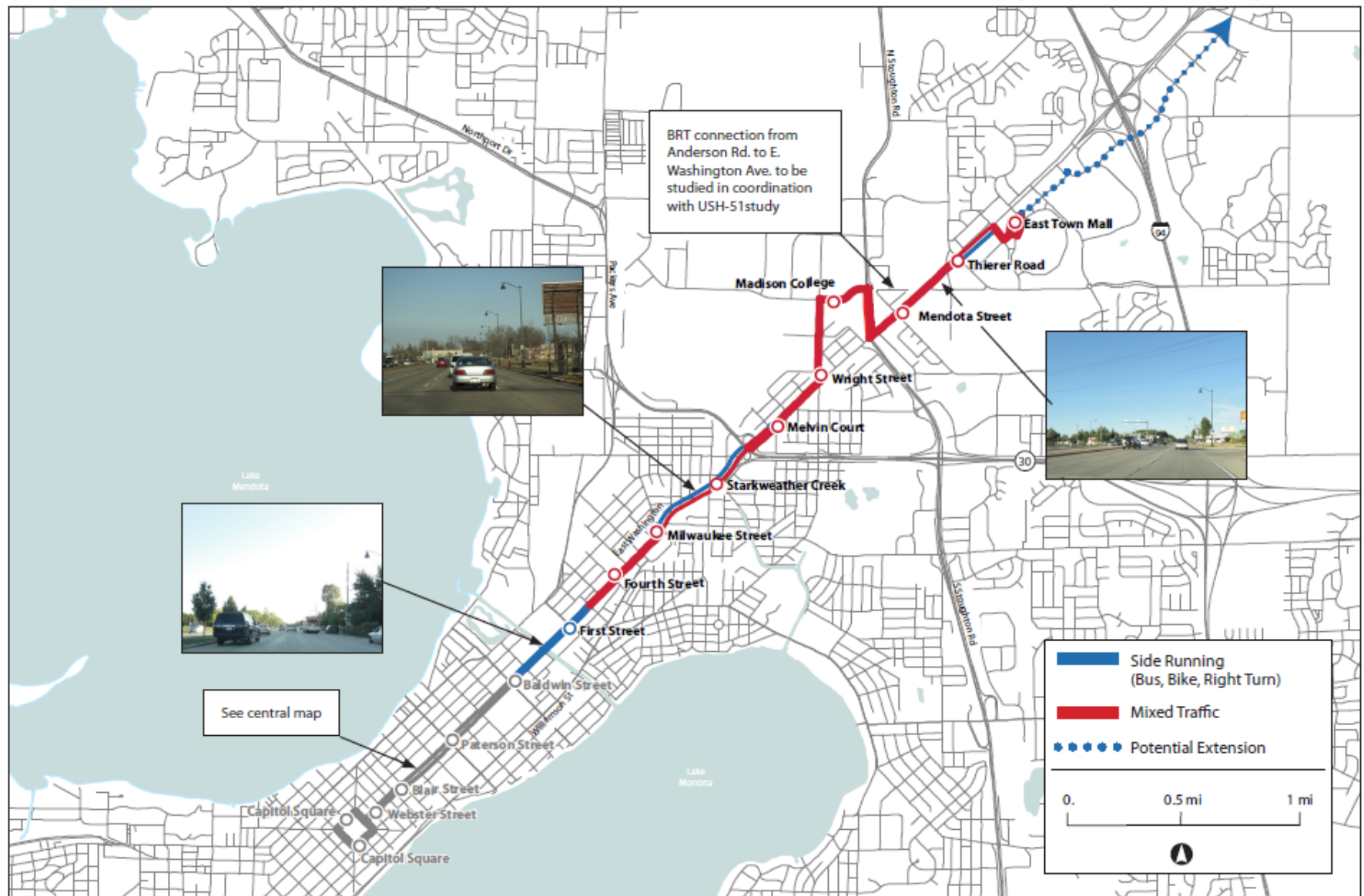




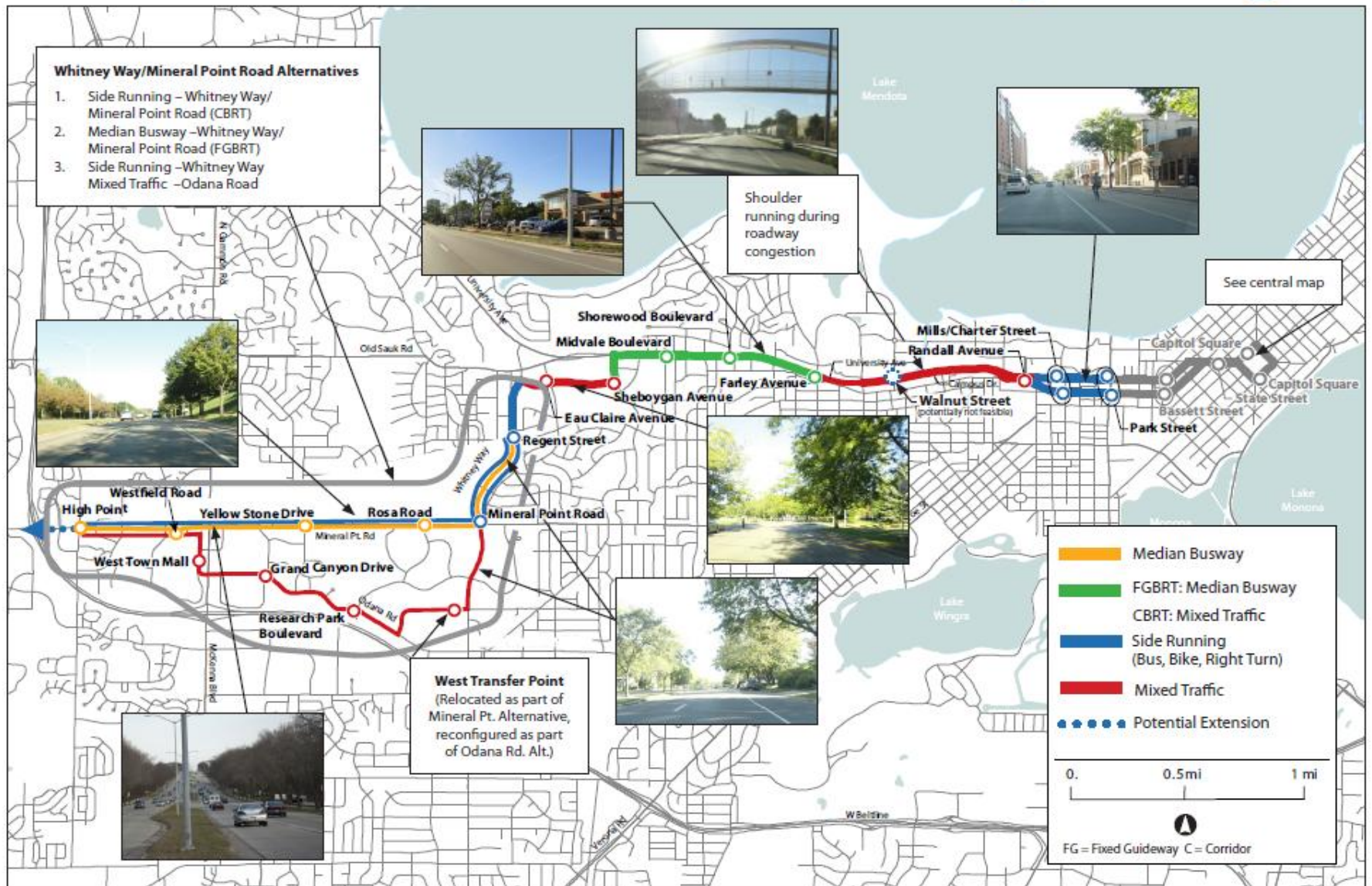
South Corridor: Stations and Runningway Types



East Corridor: Stations and Runningway Types



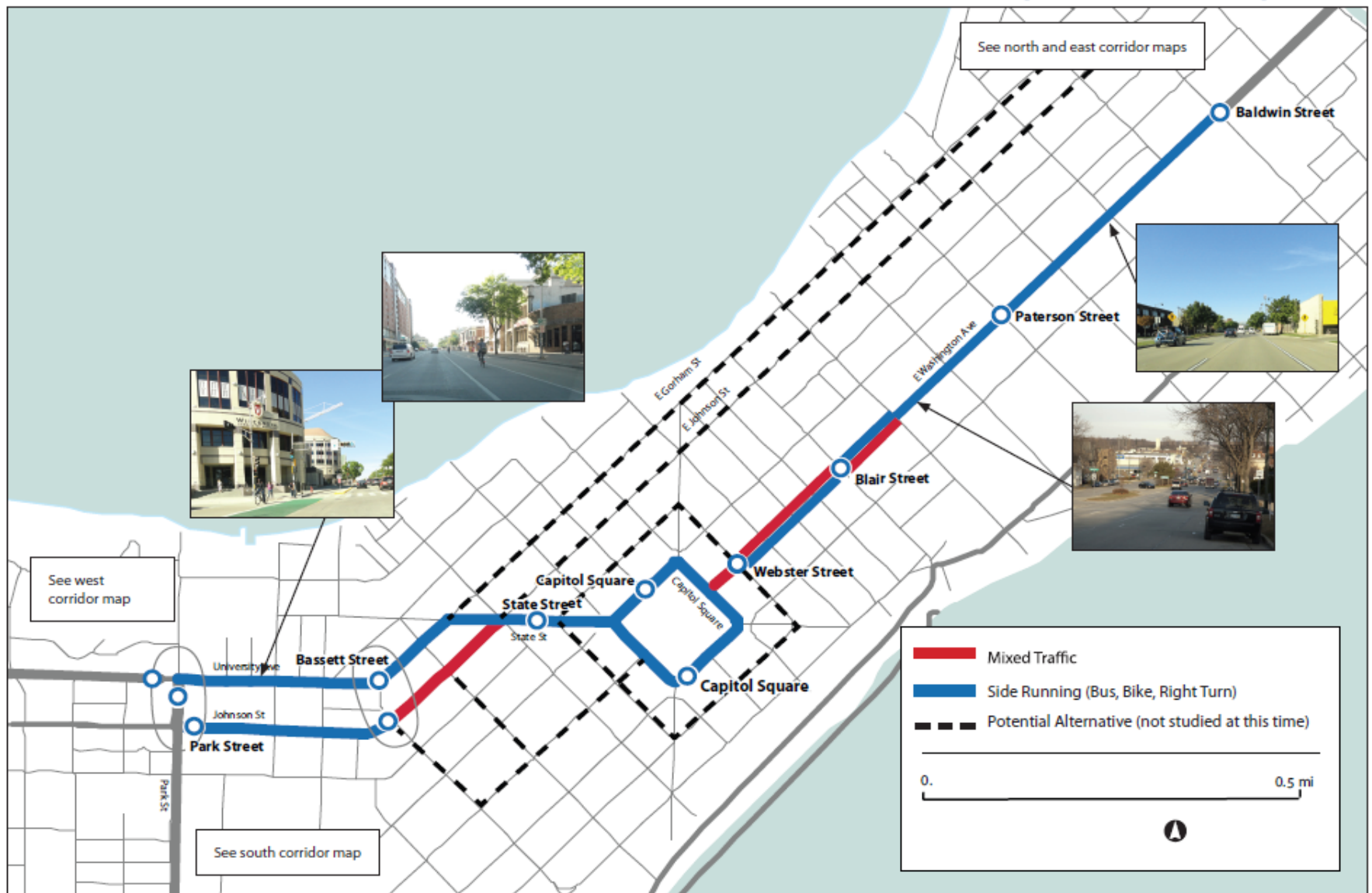
West Corridor: Stations and Runningway Types

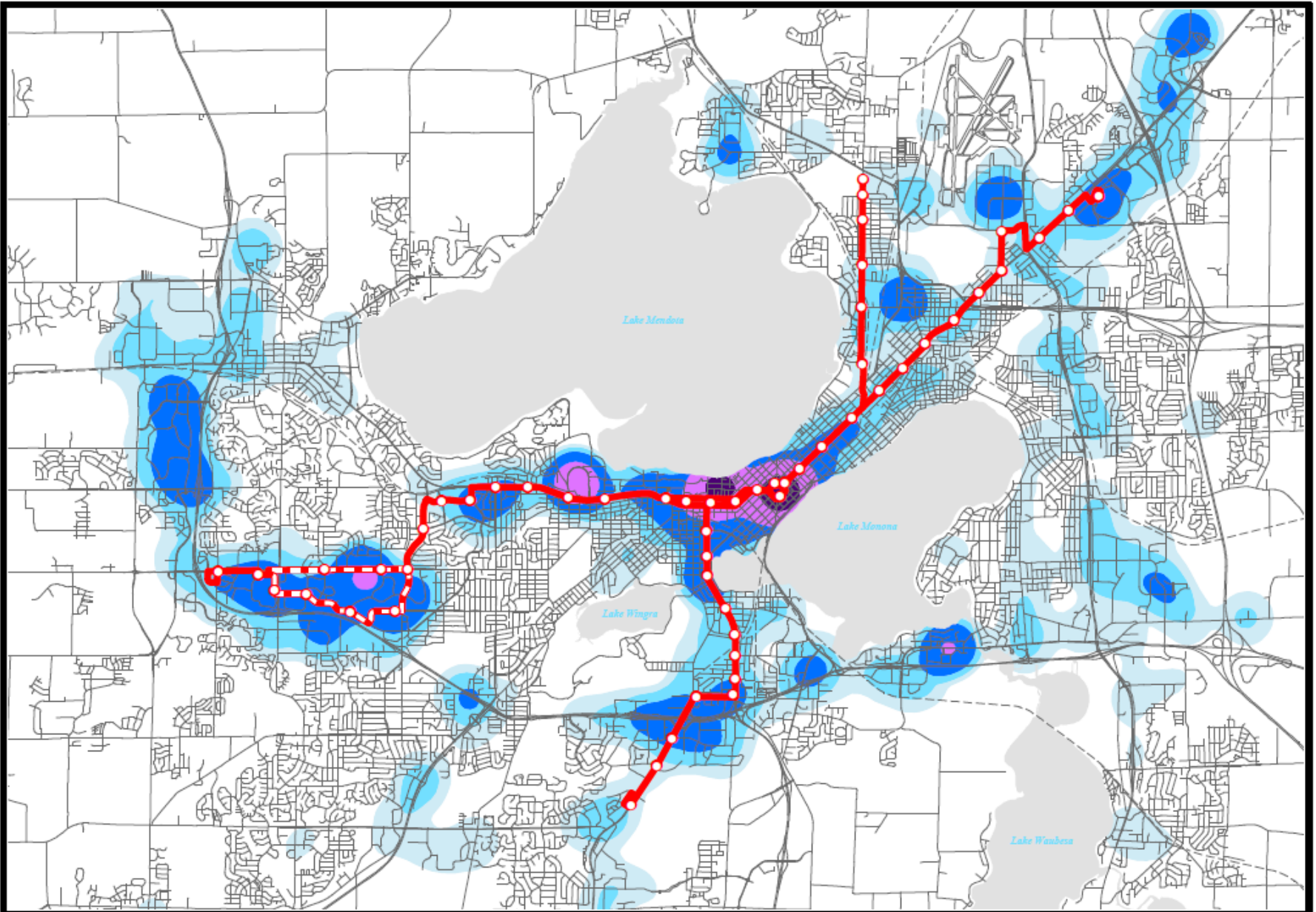


North Corridor: Stations and Runningway Types




Central Corridor: Stations and Runningway Types





Proposed BRT System with 2010 Employment Density

- Proposed Bus Rapid Transit Stops
- Proposed Bus Rapid Transit Route
- Incorporated Area
- 0 to 2.0
- 2.1 to 5.0
- 5.1 to 10.0
- 10.1 to 25
- 25.1 to 75.0
- 75.1 or Greater

Prepared by staff to the:

 Transportation Planning Board
 Date: 1/17/2014

