MADISON IN MOTION

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SUSTAINABLE TRANSPORTATION PLAN





PROCESS



PURPOSE

- Help Create Walkable, Bikeable, Transit-Oriented City
 - Strengthen Neighborhoods: Existing and New Development
 - Emphasize Transportation Choices and Mode Connectivity
 - Support Madison's Community Vision

- Resource for Transportation Decision-Making
 - Implementation of Projects



WORKSHOPS





EXPAND MOBILITY CHOICES



2



CREATE TRANSPORTATION EQUITY FOR ALL RESIDENTS



ENHANCE NEIGHBORHOODS





6







PROMOTE BENEFICIAL GROWTH









MAINTAIN FISCAL

RESPONSIBILITY



8



CHALLENGES

GROWTH



• Dane County adds 60,000/decade

• (2010- 2015 added 35,000)

City growth 25,000/decade

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

GROWING AND DIVERSIFYING

- Dane County leads State job growth projected over 500,000 by 2022
- Midwest Innovation Hub
- Health IT and Biotech sector driving growth
- Increasing Central City employment
- Growing startup community and entrepreneurial hub StartingBlock opens in 2018





STABILITY

Parks and Environmental Corridors

Agricultural

Areas of Stability (Low or Medium Density Residential, Institutional, Communication/ Utilities)

City of Madison's Areas of Potential Change (Mixed Use, Neighborhood Planning Areas, Industrial, Commercial, High Density Residential, Quarries)



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DEVELOPMENT

Central City

Urban Corridors

Regional Retail and Employment Centers

East/West New Growth Areas



A CONSTRAINED CENTRAL DISTRICT



ROADWAY CONGESTION



ACTIVE TRANSPORTATION







SIDEWALK GAPS



BIKE GAPS AND BARRIERS



PARKING SUPPLY

12,000 off-street

Code	Name	Address	Туре	Space
1	Monona Terrace	1 John Nolen Drive	Ramp	596
2	Ramp	131 W. Wilson	Ramp	220
3	Block 89	10 E. Doty	Ramp	743
4	TenneyBuilding	114 E. Main	Ramp	136
5	Hilton Hotel	9 E. Wilson	Ramp	240
6	Anchor Bank	25 W. Main	Ramp	252
7	Essen Haus	514 E. Wilson	Lot	1 18
8	Mullins	20 N. Blair	Lot	38
9	US Bank	1 S. Pinckney	Ramp	396
10	American Exchange	1 N. Pinckney	Lot	36
11	Manchester Place	2 E. Mifflin	Ramp	237
12	Dayton/Pinckney	118 N. Pinckney	Ramp	469
13	U Haul	602 W. Washington	Lot	55
14	Network 222	222 W. Washington	Ramp	210
15	Alexander Company	660 W. Washington	Ramp	859
16	University Square	318 N. Lake	Ramp	265
17	Fluno Center (Lot 46)	326 N. Lake	Ramp	747
18	Grainger Hall (Lot 7)	343 N. Brooks	Ramp	410
19	Heken C. White	600 N. Park	Ramp	194
20	Concourse	1 W. Dayton	Ramp	250
21	Meriter	328 W. Main	Ramp	501
22	Government East	215 S. Pinckney	Ramp	516
23	Capitol Square South	113 S. Henry	Ramp	973
24	Brayton Lot	1 S. Butler	Lot	171
25	Wilson Lot	499 E. Wilson	Lot	50
26	Capitol Square North	218 F. Mifflin	Ramp	613

PARKING MANAGEMENT



TRENDS AND OPPORTUNITIES

METRO RIDERSHIP





PEOPLE ARE DRIVING LESS

National VMT decrease over time:





SOURCES: http://www.nielsen.com/us/en/insights/news/2014/millennials-prefer-cities-to-suburbs-subwa org/2014/09/02/behind-fhwas-dubious-vmt-announcement-and-call-for-highway-investment/ // : https:



SOURCES: http://www.nielsen.com/us/en/insights/news/2014/millenniels-prefer-cities-to-suburbs-subweorg/2014/09/02/behind-fhwas-dubious-vmt-announcement-and-califor-highway-investment/ // : https:// **79%**

People between 20-24 years old had a driver's license in **2011** 92%

People between 20-24 years old had a driver's license in **1983**

UBER AND DELIVERY \$26.12



NUMBER OF DIGITAL SHOPPERS IN US FROM 2010 - 2018 (in millions)



PARTIAL ADOPTION

Like Electric Vehicles



PARTIAL ADOPTION

Not Much Changes

UBIQUITIOUS OWNERSHIP



UBIQUITIOUS OWNERSHIP

Less Concentrated Parking More Driving (Capacity Need Offset By Drive Density?) New Public Funding Model Safer Bike/Walk (But Less Comfortable?) Lower Cost Transit? (Labor Question)

SUBSCRIPTION/PER USE

We Stop Buying Cars (Ford/GM Keep Them) This is the Microsoft Model



SUBSCRIPTION/PER USE

Little Need For Parking(Cars Better Utilized) Less Street Space Needed (Cars Better Utilized) **Surge Pricing Changes Travel** Safer Bike/Walk (But Less Comfortable?) Two-Tiered Transit Vouchers For Need/Buses for

Dense Corridors)
COMMON STRATEGIES

Design Flexible Streets Manage Parking Investments Double-Down on Walking Orient to Dense Corridors



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 EXAMPLE



SCENARIOS

SCENARIO A

SCENARIO B













ACTIVITY CENTER CONCEPT: WESTGATE



OPTION ONE

WESTGATE AREA CONCEPTUAL STUDY



ACTIVITY CENTER CONCEPT: DUTCH MILL





Future Development Growth Scenarios

RESULTS

- Higher Transit Ridership
- Better Correlation To Project Goals
- More Non-Driving Chioces

BEST PRACTICES

MINNEAPOLIS



Hiawatha Line

SALT LAKE CITY



PORTLAND





Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bikeway Miles



SEATTLE



April 2012



AUSTIN

Congress Avenue Through the Years



Congress Avenue Urban Design Initiative





MADISON MULTIMODAL TRANSPORTATION PLAN



Draft Plan Recommendations

- Policy & Mission Statements



- System Visions (Routes and Networks)
- Facility Design Best Practices/Innovative Service Delivery
- Implementation Actions/Projects
- Follow-Up Planning and Refinement

Madison in Motion Planning Process

- -Two Community-Wide Meetings (Affirm Mission, Identify Key Issues/Concerns, Land Use Vision)
- -Targeted Stakeholder/Focus Group Outreach
 - Low-Income and Senior Representatives
 - Business Interest Groups
 - Mode Advocacy Groups (Biking, Transit)
 - Millenials (100 State)
- -Feedback via Project Web Page

 \rightarrow <u>Draft Plan Recommendations</u> Developed (Need for Broader Community and Stakeholder Review: Fall/Winter 2016)



Madison in Motion Draft Plan

- **Major Themes for Recommendations**
- -Land Use/Activity Center Planning
- -Bus Rapid Transit (BRT) & Supporting Transit Services
- -Bicycle Route/Facility Implementation
- -Priority Pedestrian Network Recommendations
- -Street Designs to Incorporate All Transportation Modes
- -Transportation Demand Management (TDM)
- -Setting the Stage: Emerging Transportation Technologies
 - \rightarrow Equity/Economic Development Focus





Future Development Growth Scenarios

Economic Development Linkages

- Innovation Districts, Opportunity Zones, Nodes & Destinations



Public Transit Recommendations

- Bus Rapid Transit (BRT) system implementation
- Local Bus Coordination (route restructure recommended)
- First-Mile/Last-Mile planning activity
- Park-and-Ride planning activity
- Regional Transit Finance (evaluate range of funding models and sources)





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)



Bus Rapid Transit (BRT) Madison Urban Area System Proposal



Potential Bus Rapid Transit (BRT) Routes



First-Mile/Last-Mile Opportunities



Park and Ride Opportunities



Express Regional Bus Opportunities



User: pidms

Bicycle System Recommendations





Recommended Off-Street Bicycle Facilities



Recommended On-Street Bicycle Facilities



Existing and Proposed Bikeways



Facility Best Practices









Protected Bike Lanes

MADISON



BICYCLE FACILITY TYPES AND TREATMENTS

BICYCLE LANE - CONVENTIONAL OR COUNTERFLOW



Designated space exclusively for bicyclists with pavement markings and signage

Located adjacent to vehicle travel lanes

·Generally flows with vehicle traffic, on the right side of the street, but can be counterflow and/or on the left

Used on medium and high volume streets

May use green color to highlight the lane, particularly through intersections and conflict areas

BICYCLE LANE - BUFFERED



 Conventional bicycle lanes paired with a designated painted buffer space

vehicle travel lane, the parking lane or both

Increases operating space and comfort for bicyclists Typically used on medium and high volume streets May use green color to highlight the lane, particularly through conflict areas

BICYCLE LANE - PROTECTED



 Bicycle facility within the street right of way that provides physical separation from the travel lane Separation may be provided with curbs, bollards, parked cars or other means

Cycle track may be at street level, sidewalk level or an intermediate level

 Typically used on medium and high volume streets with few intersections or driveways

SHARED LANE MARKING ("SHARROW")

Street markings used to indicate a shared lane for bicyclists and motorists

Sharrows indicate to bicyclists where they should position themselves in a lane

Sharrows reinforce to motorists that bicyclists belong in the lane

Typically used on low- and medium-volume streets where bicycle lanes cannot be accommodated

BICYCLE BOULEVARD



Carop

Streets with low motorized traffic volumes and speeds designated to provide priority to bicyclists Discourage speeding and cut-through traffic Often used to connect schools and parks and as an alternative to a nearby busy street May include traffic calming devices such as speed tables or traffic circles

SHARED USE PATH / SIDEPATH



 Path fully separated from a street or road Typically paved and 10 - 12 feet wide Open to most non-motorized uses Often installed in rail corridors, utility corridors or along streams, rivers or other linear features Sidepaths are shared use paths parallel to a street Sidepaths can present safety and operational challenges at intersections and driveways

BICYCLE SIGNAL



 Traffic signal to indicate bicycle movements at an intersection

 Can be user activated or a programmed signal phase Bicycles and motor vehicles have different movement cycles



 Exclusive street crossing for bicycle facilities or shared use paths.

 May be parallel to an adjoining street or crosswalk (ie. the Monroe/Regent crossing) or a diagonal crossing of an intersection (ie. Atwood @ Dunning) Reduces conflicts with pedestrians and motor vehicles Typically use a bicycle signal to control movements

COLORED PAVEMENT TREATMENT



· Colored lane markings to highlight bikeway crossings of streets, continuous lanes, or potential conflict areas Green colored and often marked with cyclist icon May be solid colored or striped

WAYFINDING SIGNAGE



 Signage to indicate direction to major destinations. areas of interest and key bicycle facilities May include distance and approximate travel time Placed at key intersections and decision points.

Buffer may separate the bicycle lane from the motor




Park and Bike Opportunities





Bicycle/Pedestrian Facility Crossing Evaluation



Addressing System Gaps & Barriers





Pedestrian Network



Recommendations (Policy)

→ Continue the City's sidewalk installation policy in new development areas and existing neighborhoods.

→ Prioritize Tier 1 Streets for sidewalk additions without street reconstruction



Recommended Tier I Sidewalk Facilities



Pedestrian Facility Best Practices









PEDESTRIAN FACILITY TYPES AND TREATMENTS

SIDEWALK

SHARED USE PATH



The pedestrian facility adjacent to most streets May be used by bicyclists in Madison when buildings are not immediately adjacent to the sidewalk Typically concrete and 5 feet wide, although wider sidewalks are desirable in areas with heavy pedestrian usage such as downtown

PEDESTRIAN HYBRID BEACON



Pedestrian-activated warning device located at midblock pedestrian crossings Beacon is dark until activated by a pedestrian; when activated the beacon displays a yellow signal followed by a red signal to drivers and a "walk" signal to

pedestrians Image courtesy FHWA

Rectangular Rapid Flashing Beacon



 Pedestrian-activated warning device located at pedestrian crossings

Beacon is dark until activated by a pedestrian; when activated the beacon flashes yellow strobe lights to indicate to drivers that a pedestrian is present

CROSSWALK - MARKED

features



A marked portion of a street for pedestrian use Connect pedestrian facilities on one side of a street to facilities on the other side of the street

Open to most non-motorized uses

Pedestrians always have right-of-way in a crosswalk except at a signalized intersection where they must follow the appropriate signal

MEDIAN REFUGE ISLAND



Median in the center of a street that provides space for pedestrians crossing the street Allows pedestrians to cross one direction of traffic at a

Makes it easier to cross busier streets where traffic may not yield to pedestrians

CROSSWALK - UNMARKED



The unmarked connection between a pedestrian facility on one side of a street to a pedestrian facility on the other side of the street

Pedestrians always have right-of-way in a crosswalk, marked or unmarked, except at a signalized intersection where they must follow the appropriate signal indication

WOONERF / PLAY STREET



 Street designed primarily for use by pedestrians and bicyclists with limited motor vehicle use Encourage social interactions and allow place for children to play and people to congregate Generally at sidewalk level without curbs

 Motor vehicles are allowed to use street, but at very low speeds that are compatible with the other uses Photo courtesy John Greenfield / Streetsblog



Signage to indicate to users the direction to specific locations

May include distance and approximate travel time Placed at key intersections and decision points





PEDESTRIAN BUMPOUT / CURB EXTENSION



Area where a curb is extended into the street Shortens the street crossing distance for pedestrians May reduce traffic speeds by narrowing the usable



Streets and Roadway Recommendations







Street Typologies - Collector Chicane

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Sustainable Madison Transportation Master Plan



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Street Typologies - Arterial Buffered Bike Lane

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Sustainable Madison Transportation Master Plan



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Street Typologies - Arterial Cycle Track

Sustainable Madison Transportation Master Plan



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Transportation Demand Management (TDM)

Recommendations (Follow-Up Planning/Refinement)

→ Institute employer-based Transportation Demand Management (TDM) measures as part of a comprehensive Citywide TDM program, in order to enhance the desirability of non single-occupancy vehicle (SOV)-based transportation modes – including public transit, ridesharing, bicycle and pedestrian transportation.

Develop a prototype **Transportation Management** Association (TMA) in the City of Madison, at an appropriate area of the City (such as downtown Madison, the Capitol East District or UW Research Park), as a mechanism to organize individual employers and administer TDM initiatives.



Next Steps

Measuring Transportation Progress: Performance Goals



Madison in Motion: Next Steps

- Develop Project/Planning Priorities
 - Projects: Near-Term Capital & Operating Budgets
 - Planning: Prioritize Future Planning Activities
- Measuring Progress Toward Transportation System Goals
 - Increasing Overall Usage of Non-Auto Transportation Modes
 - Demographic s and Geography
 - National Household Travel Survey (NHTS): 2016



Madison in Motion: Next Steps

- Technological Change: Monitoring & Deployment
 - Implement Pilot Projects, as Appropriate
 - \rightarrow Real-Time Data re: Transportation Options
 - → All-Mode Payment Cards (T-Card: transit, parking, car share, etc.)
 - \rightarrow Car Sharing Services (Car-2-Go, Zip Car, other?)
 - → Electric Bicycles/Bike Sharing (B-Cycle)
 - \rightarrow Driverless Vehicles and Connected Vans
 - \rightarrow Fully-Automated Parking Facilities





MADISON MULTIMODAL TRANSPORTATION PLAN

