TDM PROGRAM DISTRIBUTION DRAFT REVIEW

City of Madison Department of Transportation

December 20, 2021

MADISON DEPARTMENT OF TRANSPORTATION

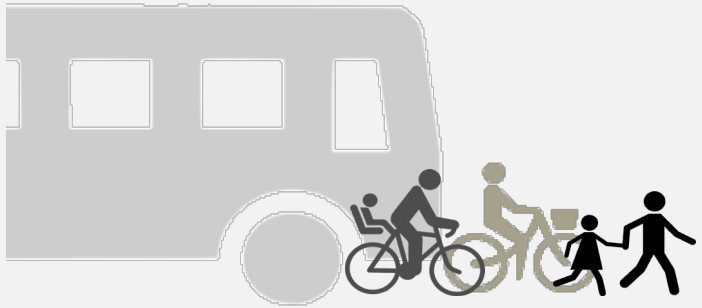
State Smart Transportation Initiative
Practical Solutions to Move America Forward

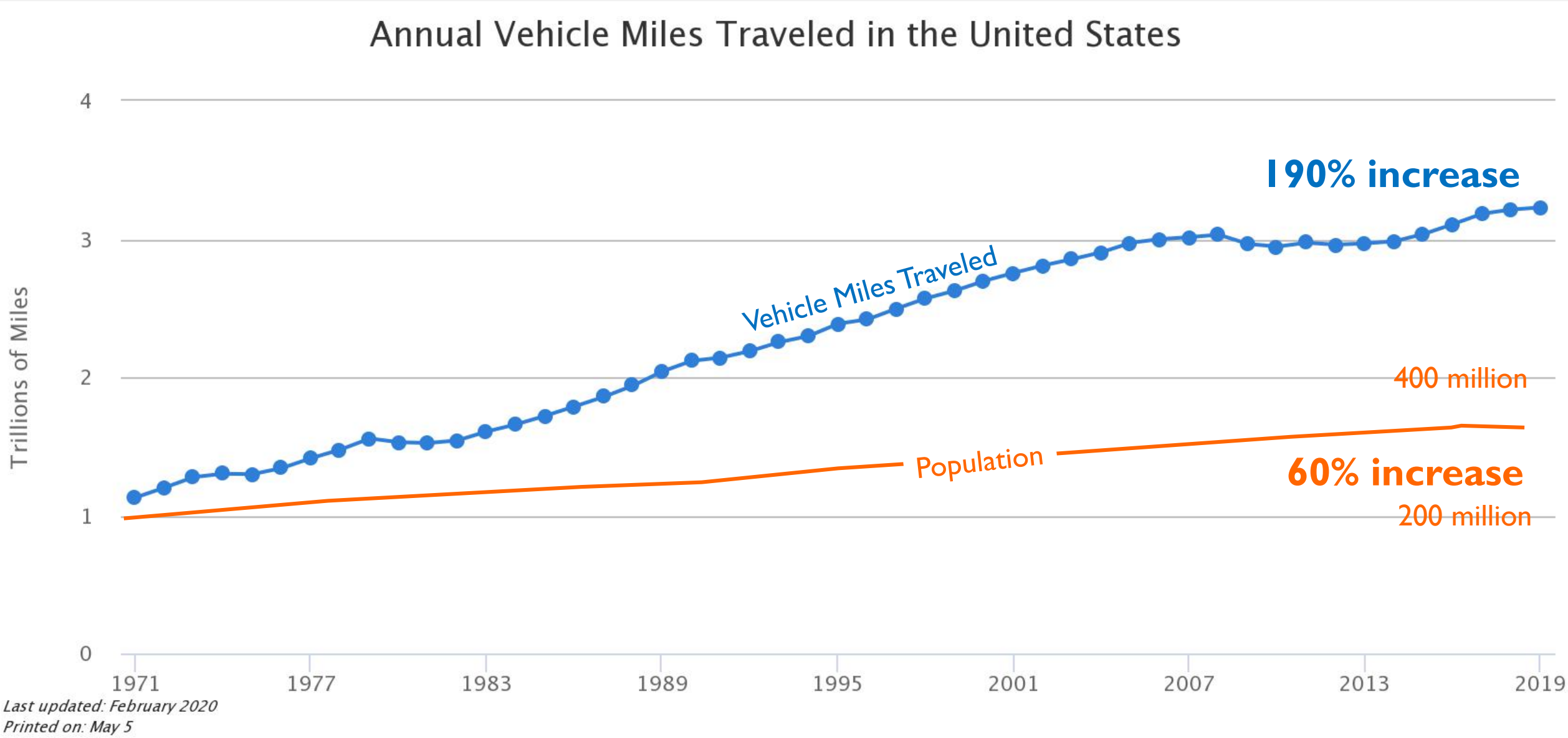
OUTLINE

- What is TDM and Why is it Needed?
- Updates Responses to TPPB Feedback
- TDM Plan Overview
- Creating a TDM Plan with new Program
- Unresolved Issues & Next Steps

WHAT IS TRANSPORTATION DEMAND MANAGEMENT?

A package of policies and strategies designed to increase transportation system efficiency and shift travel patterns to reduce the number and length of single-occupancy vehicle (SOV) trips.

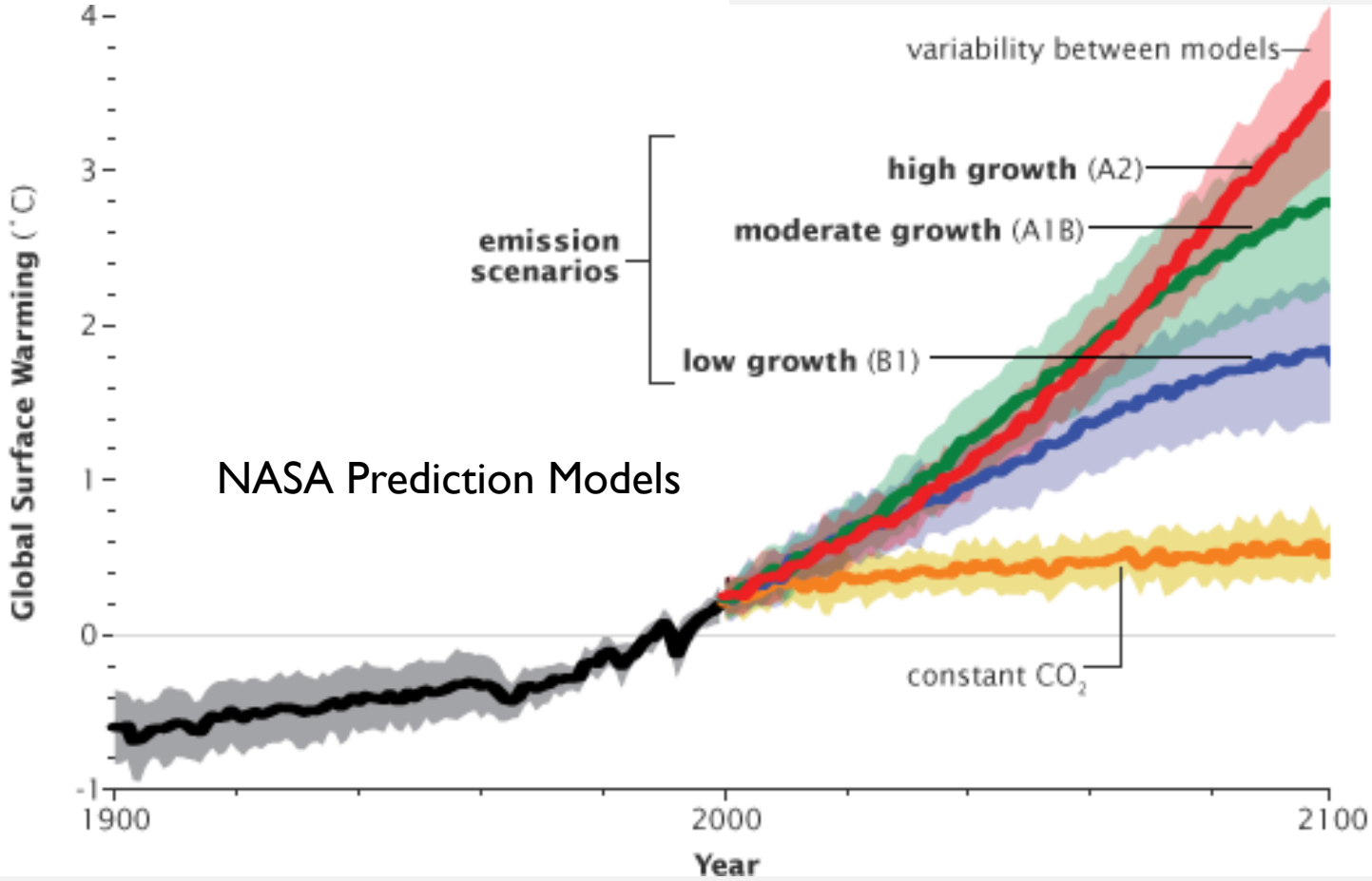



Annual Vehicle Miles Traveled in the United States
Trillions of Miles
4
3
2
1
0
1971
1977
1983
1989
1995
2001
2007
2013
2019
190% increase
Vehicle Miles Traveled
400 million
Population
60% increase
200 million
Last updated: February 2020
Printed on: May 5

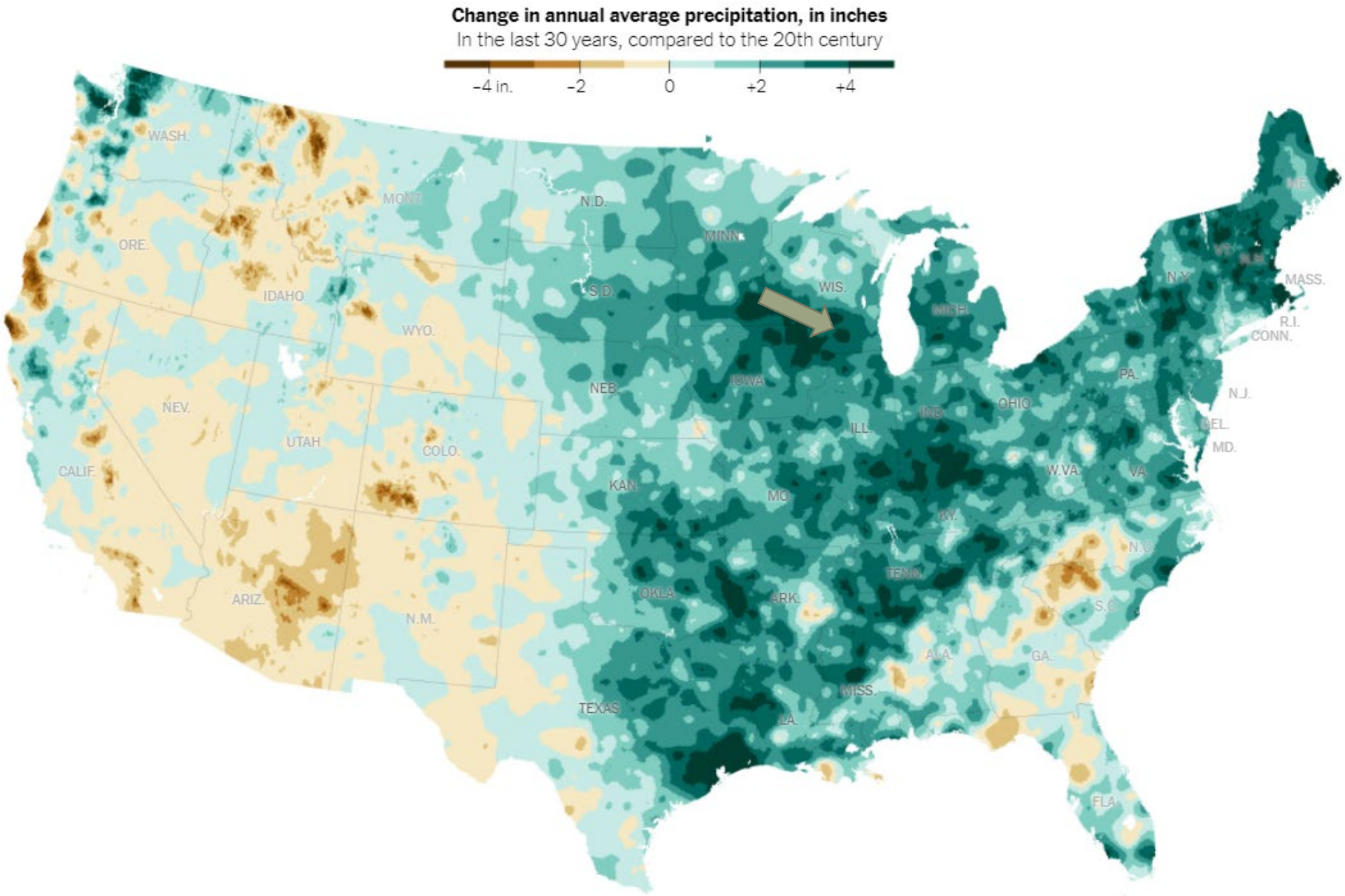
At capacity with limited opportunities for expansion

A Hotter Future Is Certain, Climate Panel Warns. But How Hot Is Up to Us.

Some devastating impacts of global warming are now unavoidable, a major new scientific report finds. But there is still a short window to stop things from getting even worse.



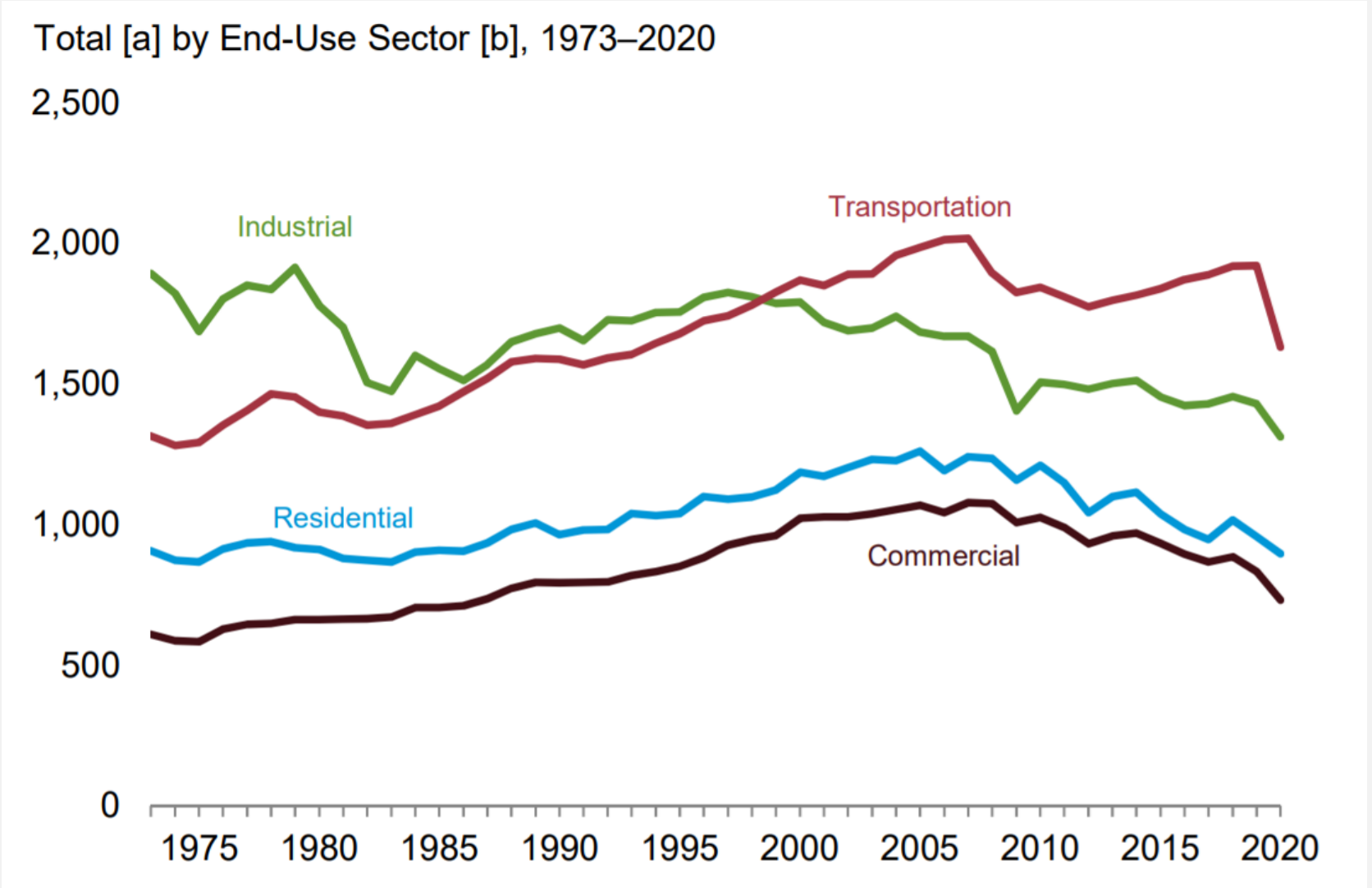
NASA Prediction Models



Source: NOAA's National Centers for Environmental Information

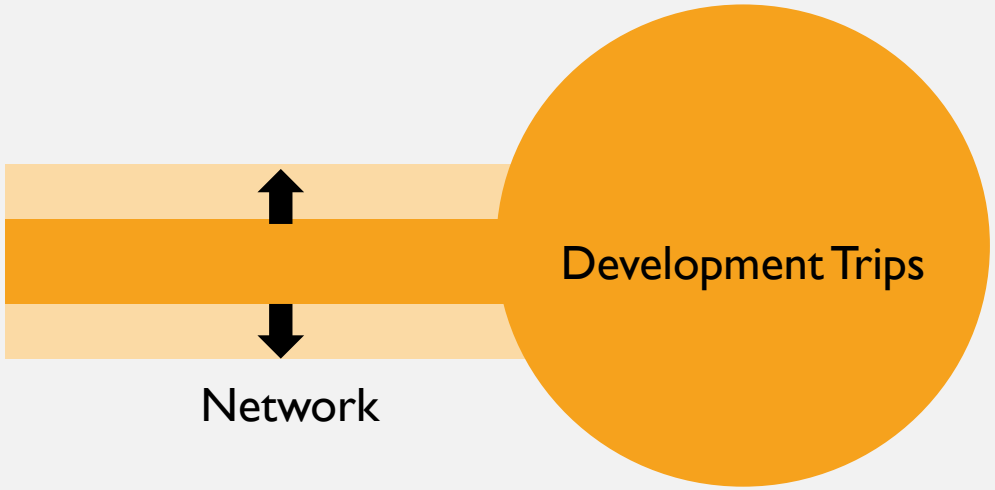

ROAD
CLOSED
STOP

Carbon Dioxide Emissions by Sector



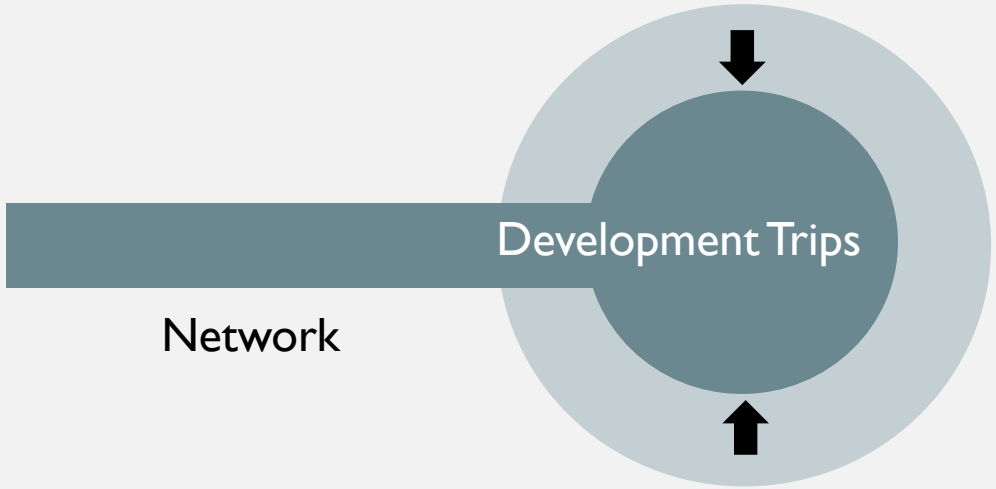
Methods of Facilitating Growth

Traditional



Increase network capacity to accommodate trips

TDM

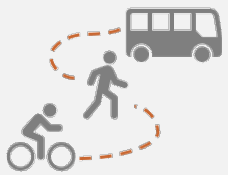


Reduce trips to accommodate network

HOW WE GOT HERE

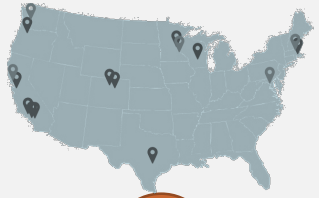
May 2020
Established goals, draft purpose statement

1



2

May-Jun 2020:
Literature study and peer city review.



3

Jun-Oct 2020
Identified potential strategies and developed draft program structure; reviewed resident parking policy measures.

4

Oct 2020
Focus group discussion and review by TPPB and Plan Commission.

5

Nov-Apr 2021
Refined measures, tested applicability on old and new projects; developed interim parking policy measures and draft TDM program materials.

6

May-Aug 2021
Interviews with developer community for feedback on program.

7

December 2021

Finalize draft TDM Program, draft TDM ordinance, and tool for creating TDM plans and reporting.

UPDATES RESPONSES TO TPPB FEEDBACK

- Granularity of tables could lead participants to slightly reduce parking in order to significantly reduce TDM requirements
  - Attempted to create a formula rather than tables
  - Because many variables, resulted in significant changes in TDM requirement calculation, reduced requirements for small projects, higher requirements for bigger projects, less transparent process

		Calculated		Calculated		Calculated		Calculated		Calculated		Calculated
	1	0	2	8.75	3	10	4	11.25	5	12.5	6	13.75
RESIDENTIAL	<10	<10	10-25 du	10-25 du	26-50 du	26-50 du	51-100 du	51-100 du	101-150 du	101-150 du	150+ du	150+ du
< 0.5	no TDM	0	no TDM	4	5	5	7	6	9	6	12	7
0.5 - 0.99	no TDM	0	no TDM	9	9	10	12	11	15	12	17	14
1.0 - 1.49	no TDM	0	12	13	15	15	17	17	19	19	22	20
1.5 - 1.99	no TDM	0	17	17	19	20	22	22	25	25	27	27
2.0 - 2.5	no TDM	0	22	22	25	25	27	28	29	31	32	34
2.5 +	no TDM	0	27	26	29	30	32	34	35	38	37	41

UPDATES RESPONSES TO TPPB FEEDBACK

- Granularity of tables could lead participants to slightly reduce parking in order to significantly reduce TDM requirements
  - Doubled granularity
    - Larger, more difficult to understand tables – reduced transparency
    - Parking ratios are less meaningful, does not solve issue

1 per 2 employees	1	2	3	4	5	6
EMPLOYMENT	**<10,000**	**10,000 - 25,000 sq. ft.**	**25,001 -50,000 sq. ft.**	**50,001 -100,000 sq. ft.**	**100,001 -150,000 sq. ft.**	**> 150,000 sq. ft.**
< 0.49	no TDM	no TDM	5	7	9	11
0.5 - 0.74	no TDM	no TDM	7	9	11	13
0.75 - 0.99	no TDM	no TDM	9	11	13	15
1.0 - 1.24	no TDM	9	11	13	15	17
1.25 - 1.49	no TDM	11	13	15	17	19
1.5 - 1.74	no TDM	13	15	17	19	21
1.75 - 1.99	no TDM	16	18	20	22	24
2.0 - 2.24	no TDM	19	21	23	25	27
2.25 - 2.49	no TDM	22	24	26	28	30
2.5 +	no TDM	26	28	30	32	34

1 per 400 sqft	1	2	3	4	5	6
COMMERCIAL	**<0**	**< 40,000 sq. ft.**	**40,001 - 100,000 sq. ft.**	**100,001 -150,000 sq. ft.**	**150,001 -200,000 sq. ft.**	**> 200,000 sq. ft.**
0.79 or less	no TDM	no TDM	5	8	10	13
0.8 - 0.99	no TDM	no TDM	7	10	12	15
1 - 1.19	no TDM	no TDM	9	12	14	17
1.2 - 1.4	no TDM	9	11	14	16	19
1.4 - 1.59	no TDM	11	13	16	18	21
1.6 - 1.79	no TDM	13	15	18	20	23
1.8 - 1.99	no TDM	15	17	20	22	25
2.0 - 2.19	no TDM	18	20	23	25	28
2.2 - 2.39	no TDM	22	23	26	28	31
2.4+	no TDM	26	27	30	32	34

UPDATES RESPONSES TO TPPB FEEDBACK

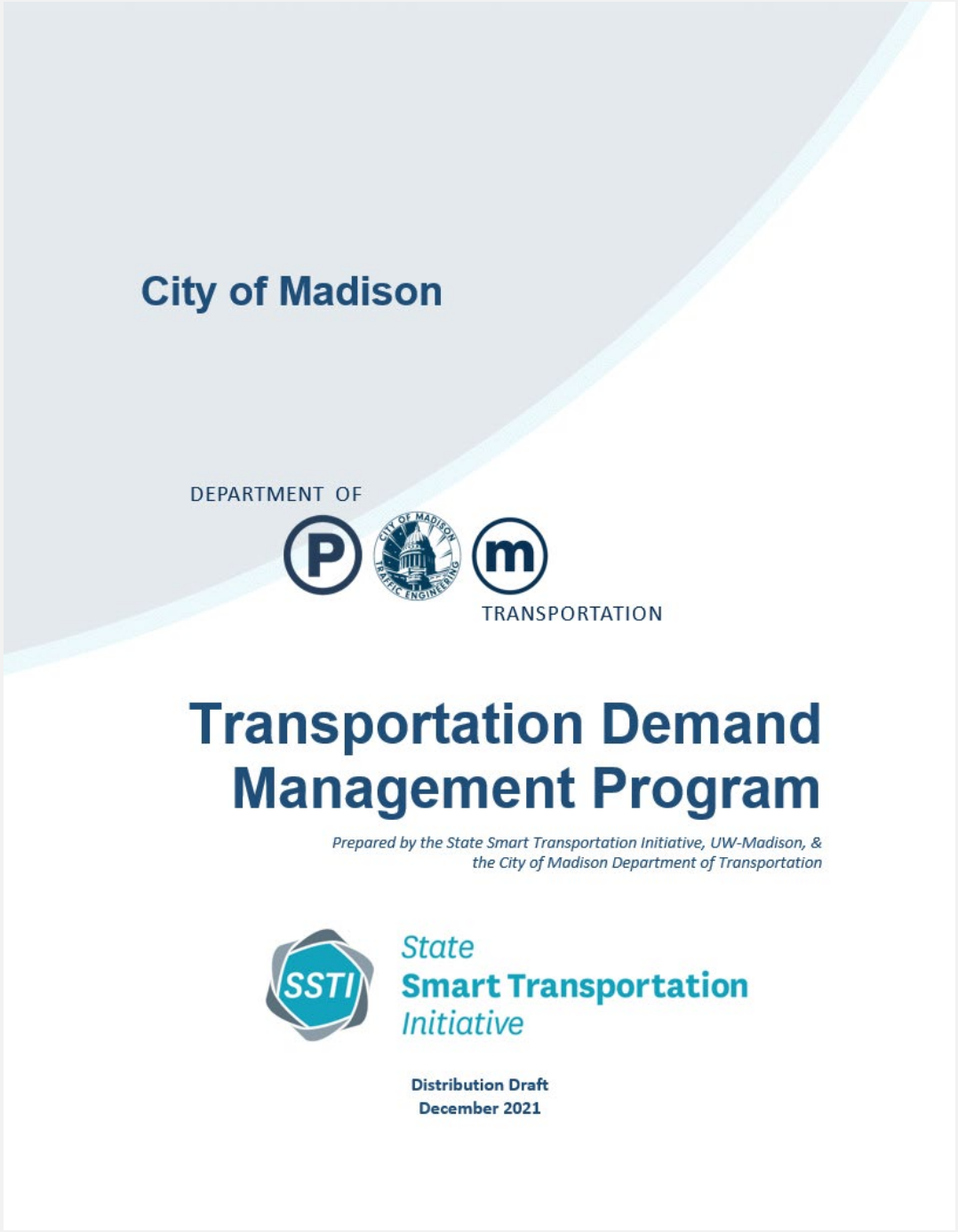
- Use of Thresholds is common in MSO
  - Landscaping (e.g. 5 landscape points per 300 sq. ft. of developed area)
  - Vehicle/Bike Parking (e.g. requirements based on area, occupants/employees, etc.)
- Not ideal, but transparent, consistent and understandable
- Recommend maintaining as-is, as this has been supported during past public engagement

Example Vehicular Parking Requirements

Office Uses	
Offices Artist, photographer studio, etc. Insurance office, real estate office, sales office	1 per 400 sq. ft. floor area
Telecommunications center	1 per 2 employees

Example Bike Parking Requirements

Place of worship	1 per 50 seats or 75 lineal feet of seating area or 1 per 350 feet of floor area in main worship space

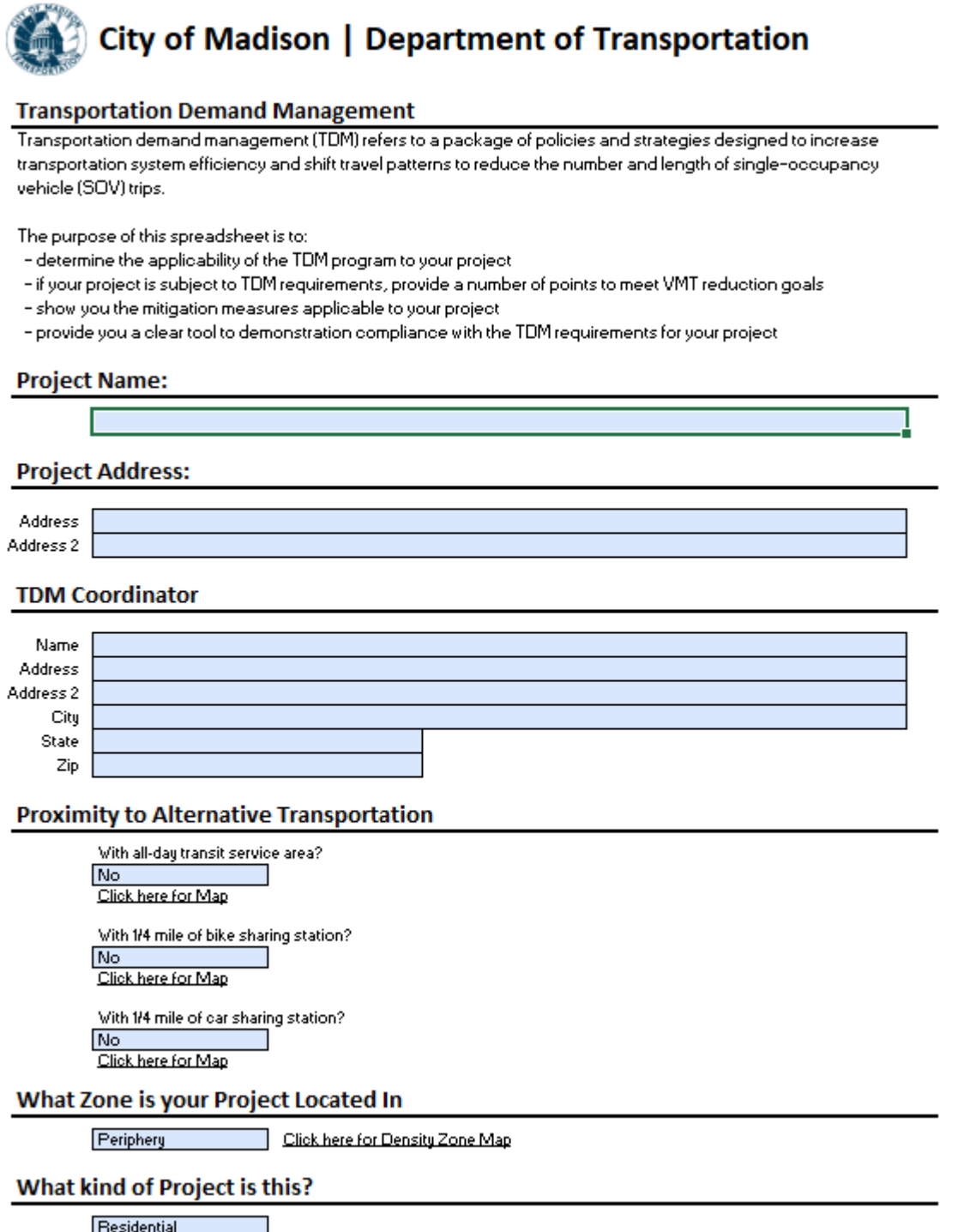


MADISON'S TDM PROGRAM

- Provides consistent, clear, transparent TDM requirements
- Provides a range of measures to meet those requirements
- Indented to be straight forward and easy to understand
- Provides an easy way to calculate requirements and demonstrate compliance

CREATING A TDM PLAN WITH NEW PROGRAM

- Gather project information including:
  - Location
  - Use Classification
  - Size
  - Parking (proposed and MSO minimum)
  - Proximity to Transit
  - Proximity to Alternative Transportation
- Download TDM Plan and TDM Plan Spreadsheet



City of Madison | Department of Transportation

Transportation Demand Management

Transportation demand management (TDM) refers to a package of policies and strategies designed to increase transportation system efficiency and shift travel patterns to reduce the number and length of single-occupancy vehicle (SOV) trips.

The purpose of this spreadsheet is to:
- determine the applicability of the TDM program to your project
- if your project is subject to TDM requirements, provide a number of points to meet VMT reduction goals
- show you the mitigation measures applicable to your project
- provide you a clear tool to demonstration compliance with the TDM requirements for your project

Project Name:

Project Address:

Address
Address 2

TDM Coordinator

Name
Address
Address 2
City
State
Zip

Proximity to Alternative Transportation

With all-day transit service area?
No
Click here for Map

With 1/4 mile of bike sharing station?
No
Click here for Map

With 1/4 mile of car sharing station?
No
Click here for Map

What Zone is your Project Located In

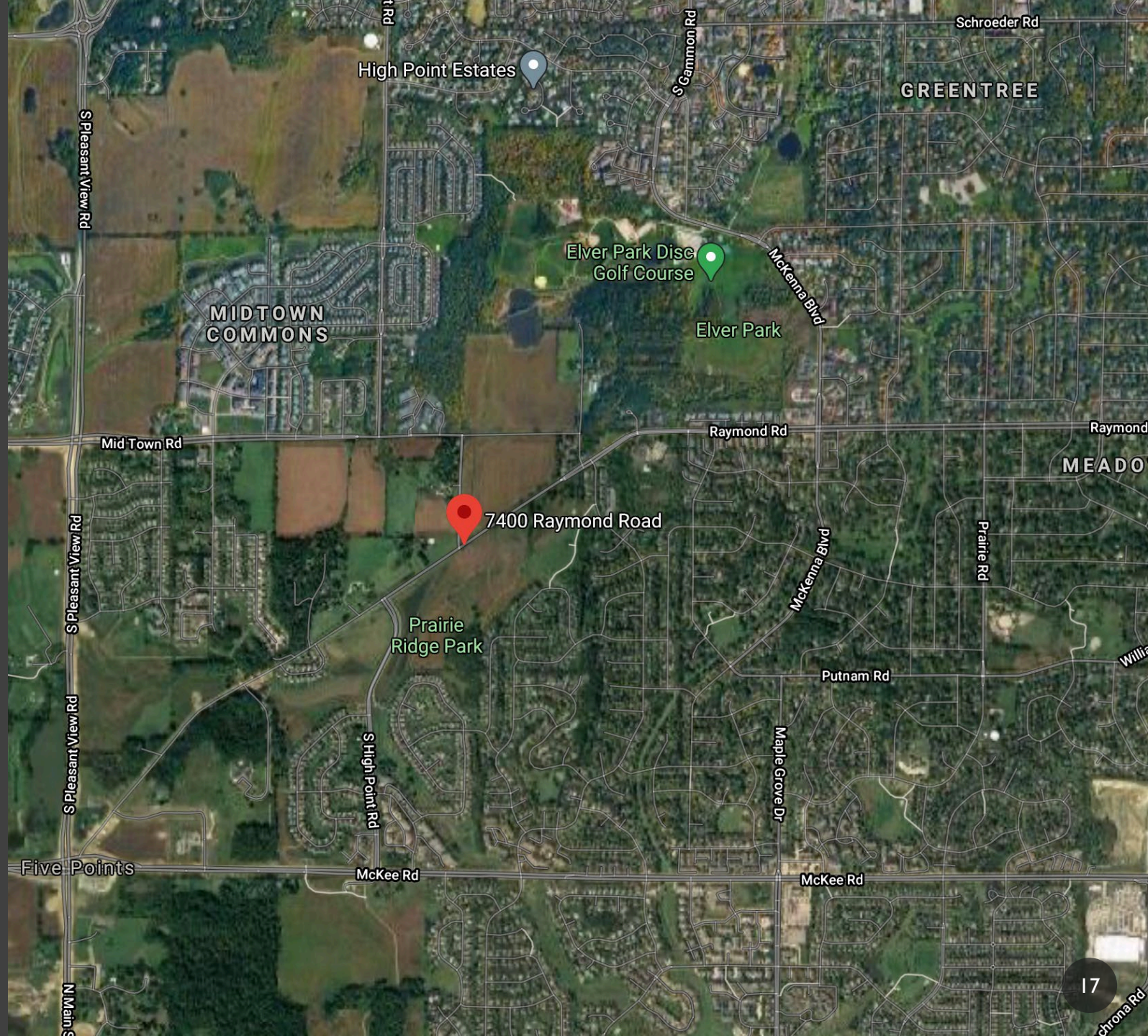
Periphery Click here for Density Zone Map

What kind of Project is this?

Residential

EXAMPLE PROJECT: RAYMOND RD APARTMENTS

- **Property**: 7400 block of Raymond Road
  - Residential
  - 20% affordable @ 60% AMI
  - 100 DU
  - 150 Parking Stalls
  - No access to bus, bikeshare, carshare



INPUT PROJECT INFORMATION INTO TDM PLAN

- In TDM Spreadsheet, enter:
  - Project Name
  - Project Address
  - TDM Coordinator Contact Info

City of Madison | Department of Transportation

Transportation Demand Management

Transportation demand management (TDM) refers to a package of policies and strategies designed to increase transportation system efficiency and shift travel patterns to reduce the number and length of single-occupancy vehicle (SOV) trips.

The purpose of this spreadsheet is to:
- determine the applicability of the TDM program to your project
- if your project is subject to TDM requirements, provide a number of points to meet VMT reduction goals
- show you the mitigation measures applicable to your project
- provide you a clear tool to demonstration compliance with the TDM requirements for your project

Project Name:

	Raymond Road Apartments

Project Address:

Address	7400 Raymond Road
Address 2	Madison, WI

TDM Coordinator

Name	Developer Name
Address	123 E. Washington Ave.
Address 2	
City	Madison
State	Wisconsin
Zip	53704

INPUT PROJECT INFORMATION INTO TDM PLAN

Proximity to Alternative Transportation

With all-day transit service area?

No

Click here for Map

With 1/4 mile of bike sharing station?

No

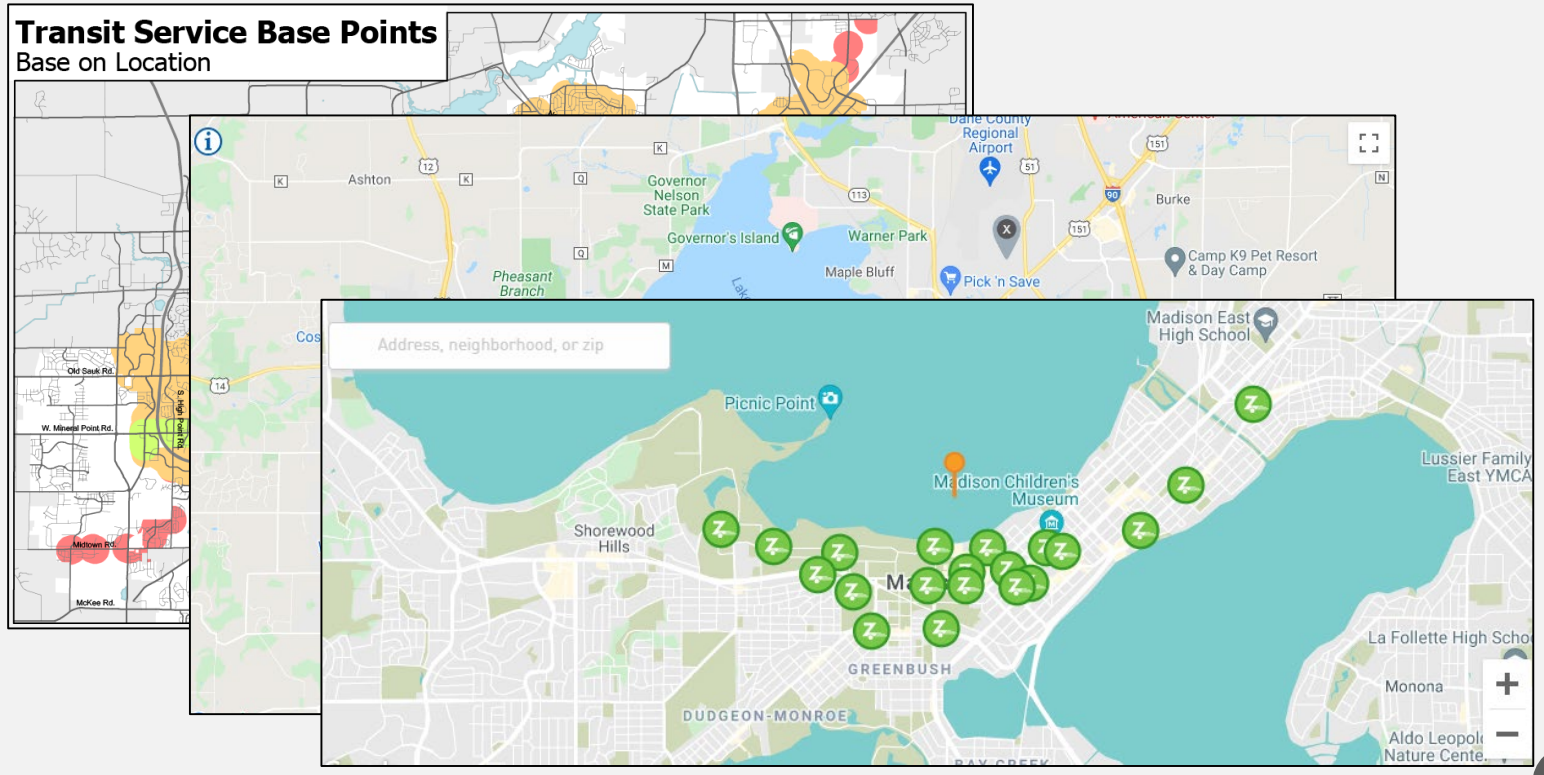
Click here for Map

With 1/4 mile of car sharing station?

No

Click here for Map

- Identify the project's proximity to alternative transportation
- Adjusts effectiveness of mitigation measures related to these modes
- 50% point reduction if outside of service area



INPUT PROJECT INFORMATION INTO TDM PLAN

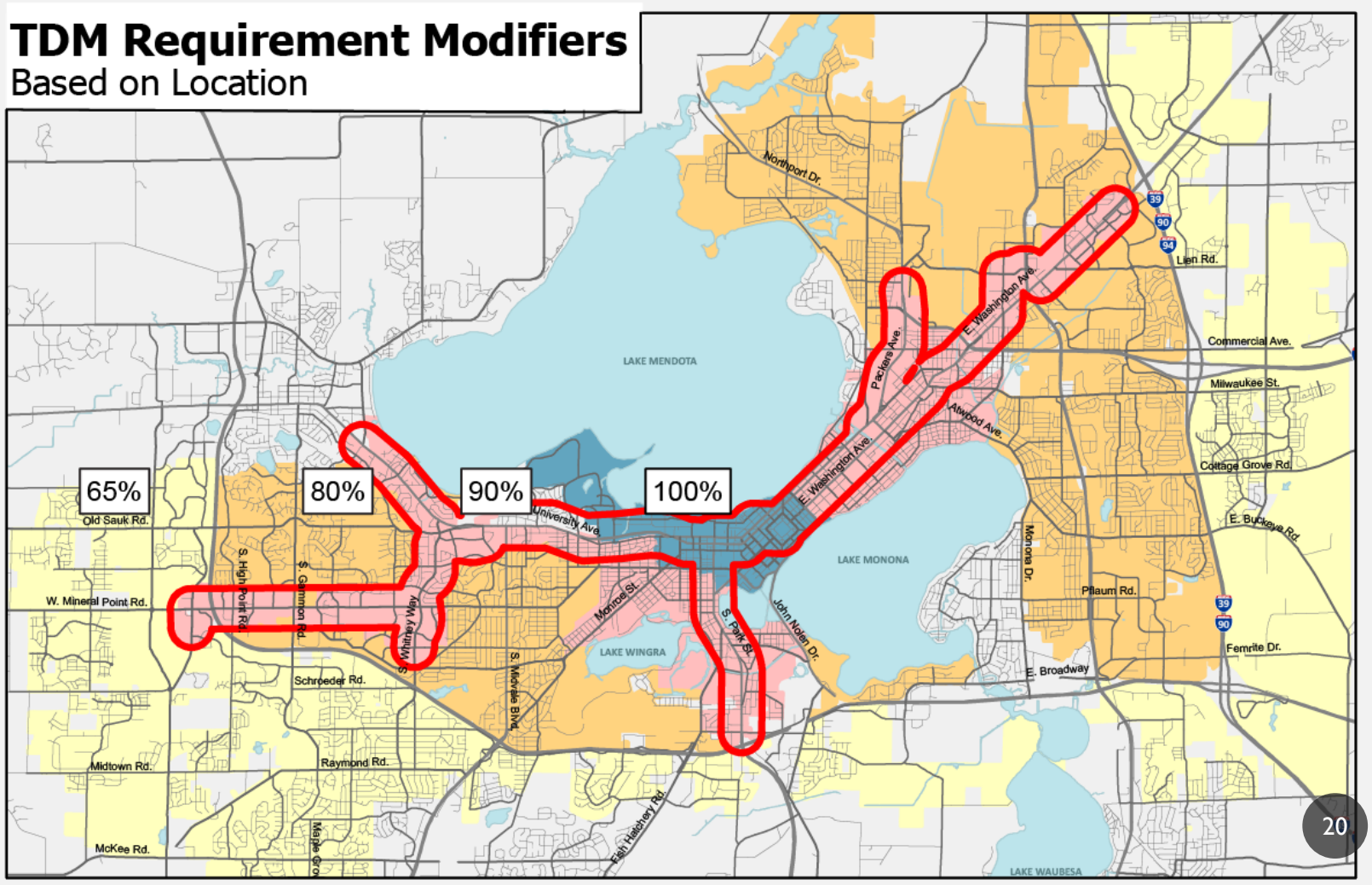
- Determine TDM raw-point value modifier based on location
  - This will automatically reduce raw point-value target when entering mitigation measures
- Enter use category of project

What Zone is your Project Located In

Periphery Click here for Density Zone Map

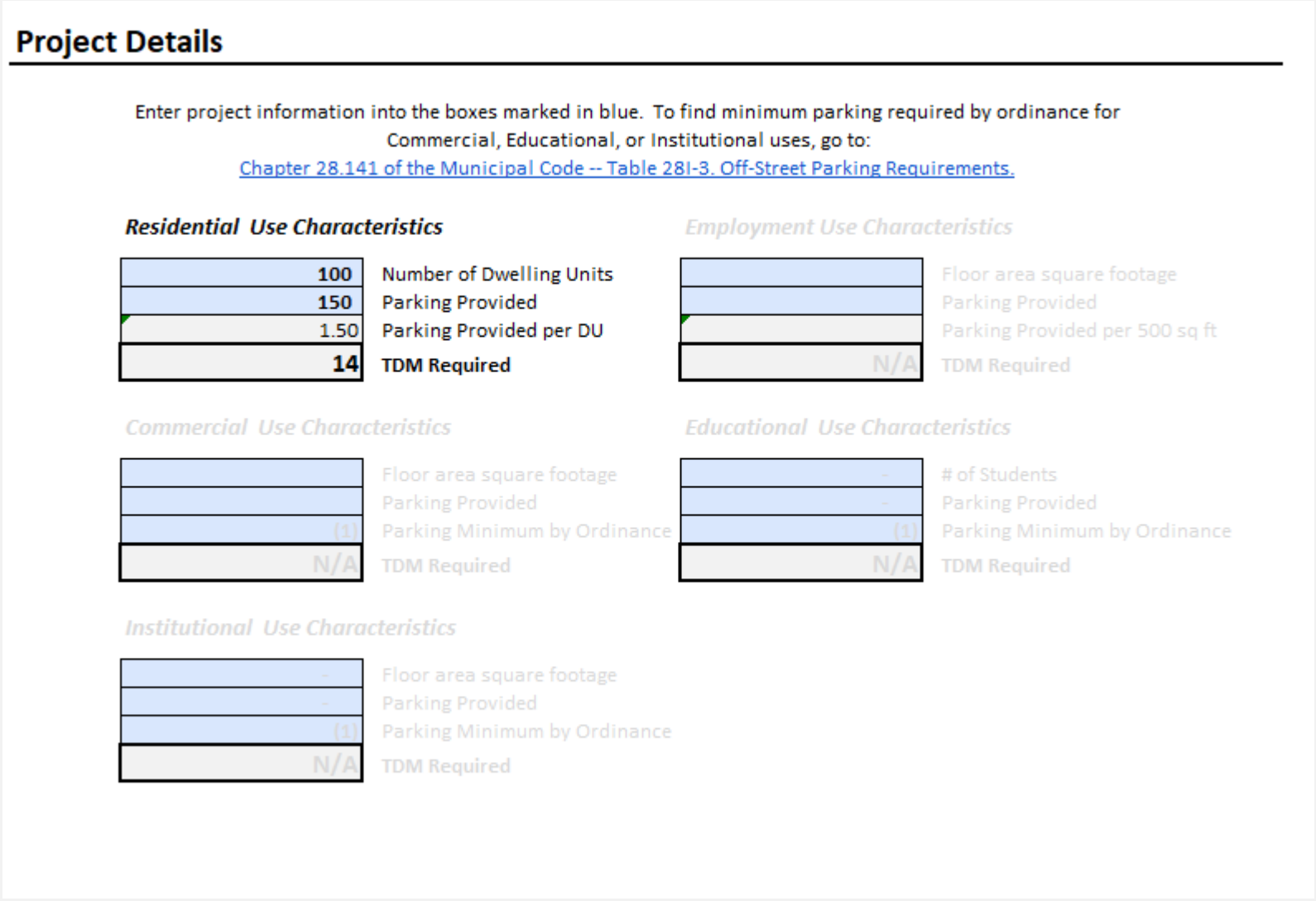
What kind of Project is this?

Residential



INPUT PROJECT INFORMATION INTO TDM PLAN

- Only the use identified in the previous step is highlighted, with required details identified
- Enter Project Details
- TDM requirement is automatically calculated



Project Details

Enter project information into the boxes marked in blue. To find minimum parking required by ordinance for Commercial, Educational, or Institutional uses, go to:
Chapter 28.141 of the Municipal Code -- Table 28I-3. Off-Street Parking Requirements.

Residential Use Characteristics

100	Number of Dwelling Units
150	Parking Provided
1.50	Parking Provided per DU
14	**TDM Required**

Employment Use Characteristics

	Floor area square footage
	Parking Provided
	Parking Provided per 500 sq ft
N/A	TDM Required

Commercial Use Characteristics

	Floor area square footage
	Parking Provided
(1)	Parking Minimum by Ordinance
N/A	TDM Required

Educational Use Characteristics

-	# of Students
-	Parking Provided
(1)	Parking Minimum by Ordinance
N/A	TDM Required

Institutional Use Characteristics

-	Floor area square footage
-	Parking Provided
(1)	Parking Minimum by Ordinance
N/A	TDM Required

IDENTIFY MITIGATION MEASURES

- TDM requirements and point reductions are carried over from previous sheet
- Points provided updates in real-time
- Compliance status changes while selecting measures

Required Points			Provided Points		Compliant
14	Residential	Residential	0	Residential	NO
	Employment	Employment		Employment	
	Commercial	Commercial		Commercial	
	Educational	Educational		Educational	
	Institutional	Institutional		Institutional	

(Calculated based on your inputs from Step 1)

VMT Reduction Strategies

All Blue Boxes Require Additional Input. Please Fill In!

Active Transportation Strategies

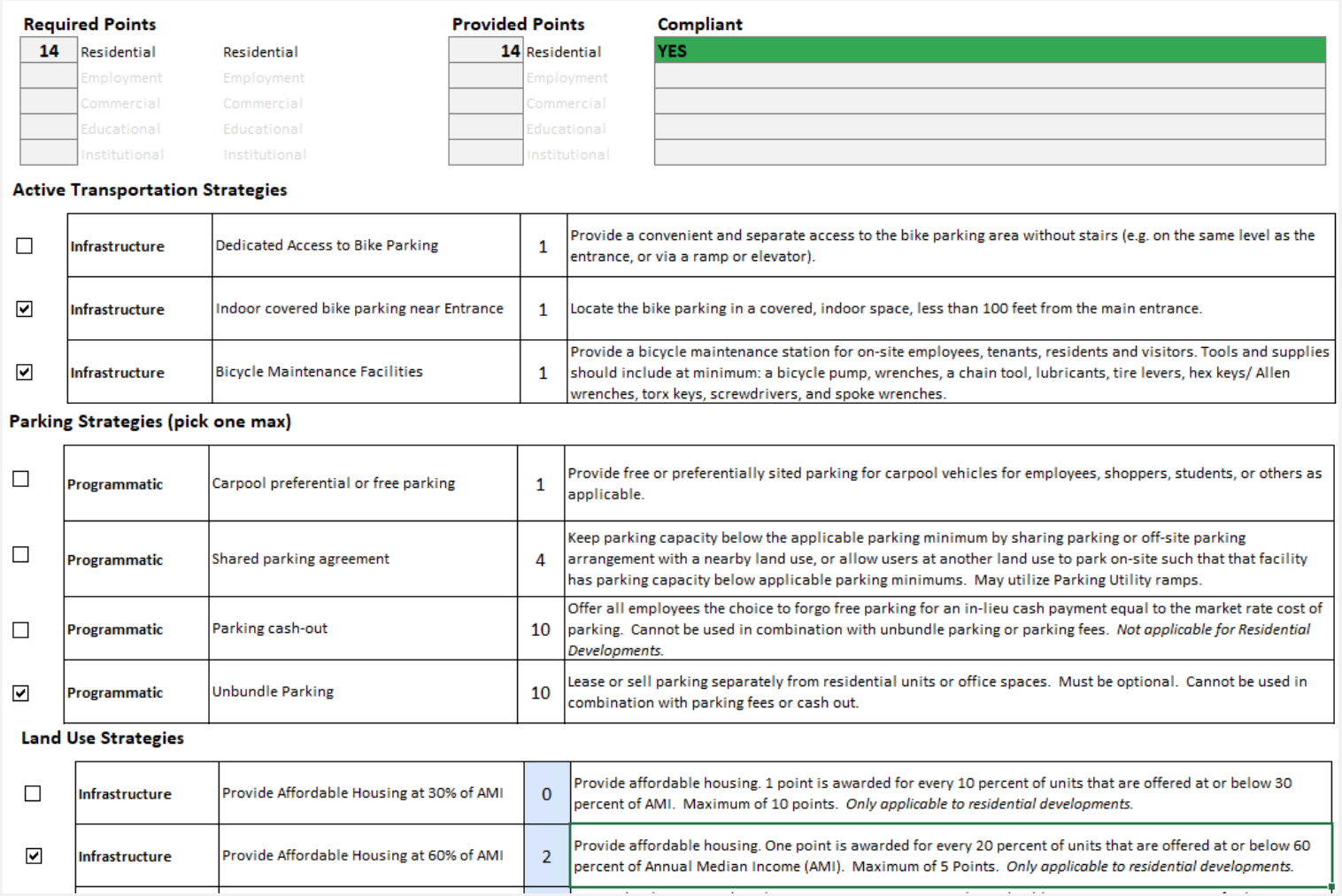
☐	**Infrastructure**	Dedicated Access to Bike Parking	1	Provide a convenient and separate access to the bike parking area without stairs (e.g. on the same level as the entrance, or via a ramp or elevator).
☐	**Infrastructure**	Indoor covered bike parking near Entrance	1	Locate the bike parking in a covered, indoor space, less than 100 feet from the main entrance.
☐	**Infrastructure**	Bicycle Maintenance Facilities	1	Provide a bicycle maintenance station for on-site employees, tenants, residents and visitors. Tools and supplies should include at minimum: a bicycle pump, wrenches, a chain tool, lubricants, tire levers, hex keys/ Allen wrenches, torx keys, screwdrivers, and spoke wrenches.
☐	**Infrastructure**	Clothes Lockers and Showers	1	Provide 1 shower along with 5 clothes lockers for every 30-50 bike parking spaces.
☐	**Infrastructure**	Bicycle Lockers or Secure Storage Room	2	Provide lockers for secure, long-term storage of bikes: 1 locker for every 20 DUs or 30 employees.
☐	**Programmatic**	Shared Fleet of Bicycles	2	Provide an on-site shared fleet of free loner bicycles for use by residents/ employees. Fleet should include at least 1 bicycle for every 10 DUs or 30 employees, with a minimum of 5 bikes.
☐	**Infrastructure**	Improve Surrounding *Pedestrian* Infrastructure	0	Improve pedestrian infrastructure (side walks, curb ramps, crosswalk, RRFB, etc.) on adjacent properties within 500 ft. of project consistent with city plans and ordinances and federal accessibility requirements. 1 point per 100ft of infrastructure, up to 4 total points.
☐	**Infrastructure**	Improve Surrounding *Bicycle* Infrastructure	0	Improve bicycle infrastructure (bicycle lanes, cycle tracks, new crossings, bike-ped paths, etc.) within 500 ft. of project consistent with city plans, ordinances, and federal requirements. One point per amenity or one point per 100 ft. of infrastructure, up to 4 points.
☐	**Infrastructure**	Traffic Calming Measures	0	Install traffic calming measures such as speed humps and roundabouts. One point per small-dollar measure (e.g. pedestrian flags, temporary speed hump) and two points per large-dollar measure (e.g. RRFB, permanent speed hump). Must be located within 500 ft. of project and be consistent with city plans, ordinances, and federal requirements. One point per amenity or one point per 100ft of infrastructure, up to 4 points.

Transit Strategies

The project within the all-day transit service area? Measures worth 50% less if not. (From Step 1)	**No**

IDENTIFY MITIGATION MEASURES

- Select check box next to desired measures
- Provided Points Updates as measures are selected
- Compliance indicator turns green once enough points are identified
- Applicant saves sheet and submits to Department of Transportation for review



Required Points			Provided Points		Compliant
14	Residential	Residential	14	Residential	YES
	Employment	Employment		Employment	
	Commercial	Commercial		Commercial	
	Educational	Educational		Educational	
	Institutional	Institutional		Institutional	

Active Transportation Strategies

☐	Infrastructure	Dedicated Access to Bike Parking	1	Provide a convenient and separate access to the bike parking area without stairs (e.g. on the same level as the entrance, or via a ramp or elevator).
☑	Infrastructure	Indoor covered bike parking near Entrance	1	Locate the bike parking in a covered, indoor space, less than 100 feet from the main entrance.
☑	Infrastructure	Bicycle Maintenance Facilities	1	Provide a bicycle maintenance station for on-site employees, tenants, residents and visitors. Tools and supplies should include at minimum: a bicycle pump, wrenches, a chain tool, lubricants, tire levers, hex keys/ Allen wrenches, torx keys, screwdrivers, and spoke wrenches.

Parking Strategies (pick one max)

☐	Programmatic	Carpool preferential or free parking	1	Provide free or preferentially sited parking for carpool vehicles for employees, shoppers, students, or others as applicable.
☐	Programmatic	Shared parking agreement	4	Keep parking capacity below the applicable parking minimum by sharing parking or off-site parking arrangement with a nearby land use, or allow users at another land use to park on-site such that that facility has parking capacity below applicable parking minimums. May utilize Parking Utility ramps.
☐	Programmatic	Parking cash-out	10	Offer all employees the choice to forgo free parking for an in-lieu cash payment equal to the market rate cost of parking. Cannot be used in combination with unbundle parking or parking fees. *Not applicable for Residential Developments.*
☑	Programmatic	Unbundle Parking	10	Lease or sell parking separately from residential units or office spaces. Must be optional. Cannot be used in combination with parking fees or cash out.

Land Use Strategies

☐	Infrastructure	Provide Affordable Housing at 30% of AMI	0	Provide affordable housing. 1 point is awarded for every 10 percent of units that are offered at or below 30 percent of AMI. Maximum of 10 points. *Only applicable to residential developments.*
☑	Infrastructure	Provide Affordable Housing at 60% of AMI	2	Provide affordable housing. One point is awarded for every 20 percent of units that are offered at or below 60 percent of Annual Median Income (AMI). Maximum of 5 Points. *Only applicable to residential developments.*

UNRESOLVED ISSUES & NEXT STEPS

- Single Family Residential Neighborhoods
  - Transportation Impact Fees?
  - Other mechanisms for transportation infrastructure/VMT Reduction?
- BRT vs All-day service – same for TDM?
- Update Frequency – specified or not?
- TDM Plan/Ordinance Adoption?

DISTROBUTION DRAFT 12-20-21

XX.xx. Transportation Demand Management.

(1) Purpose. The Madison Common Council finds that ongoing development increases demands on Madison's transportation infrastructure, causes travel delays for Madison residents and visitors, and threatens the local environment through increased carbon emissions. Moreover, Madison's isthmus and other factors make expanding Madison's existing transportation infrastructure for additional vehicle traffic either impossible or impractical. The purpose of this ordinance is therefore to create a Transportation Demand Management (TDM) program which implements Comprehensive Plan policies calling for reduction of vehicle miles traveled (VMT); reduction of single occupancy vehicle (SOV) trips; equitable access to multi-modal transportation options such as rideshare, public transit, bicycling, and walking; reduction of travel delays and air emissions; and increased support for transportation oriented land-use development (TOD).

(2) Applicability. This section applies to the following buildings, uses, or additions constructed or established after the effective date of this ordinance:

(a) Residential buildings, uses, or additions.

(b) Employment buildings, uses, or additions.

(c) Commercial buildings, uses, or additions.

(d) Institutional buildings, uses, or additions.

(e) Mixed-use buildings, uses, or additions with one or more of the uses mentioned above.

(3) Exemptions. This section applies to the following buildings, uses, or additions constructed or established after the effective date of this ordinance:

(a) Residential buildings, uses, or additions with less than 10 dwelling units or containing 10-25 dwelling units with a proposed parking ratio of less than 1.0;

(b) Employment buildings, uses, or additions of between of less than 10,000 square feet of floor area or between 10,000-25,000 square feet of floor area and a proposed parking ratio less than 1.0

(c) Commercial buildings, uses, or additions of less than 40,000 square feet of floor area and a proposed parking ratio of less than 1.25 their parking minimums or within the following use categories: day care center, nursery school, animal daycare facilities

(d) Institutional buildings, uses, or additions of less than 40,000 square feet of floor area and a proposed parking ratio of less than 1.25 their parking minimums or within the following use categories: elementary school, middle school, institutions with campus master plans, places of worship, public safety facilities

(e) Mixed-use buildings, uses, or additions that meet some or all of the exemption criteria outlined above.

(4) Program requirements. No building permit shall be issued for any building, use, or addition subject to this section until the City of Madison Department of Transportation ("DOT") has approved a TDM plan that meets all of the following requirements:

THANK YOU!