



RAPID TRIP 2045



Metropolitan Transportation Plan

Rapid City Area

MPO

PUBLIC MEETING / OPEN HOUSE #1

October 29, 2019



U.S. Department of Transportation
Federal Highway Administration

PURPOSE OF THE MEETING

- Involve the public in the planning process
 - Brief Presentation to explain project followed by interactive discussion
- Provide a Project Overview
 - Background
 - Project Scope
 - Project Schedule
- Gather Input and Feedback on Future Transportation Needs for Rapid City Area



PROJECT TEAM

Kip Harrington

RCAMPO Project Manager

Dustin Hamilton, PE

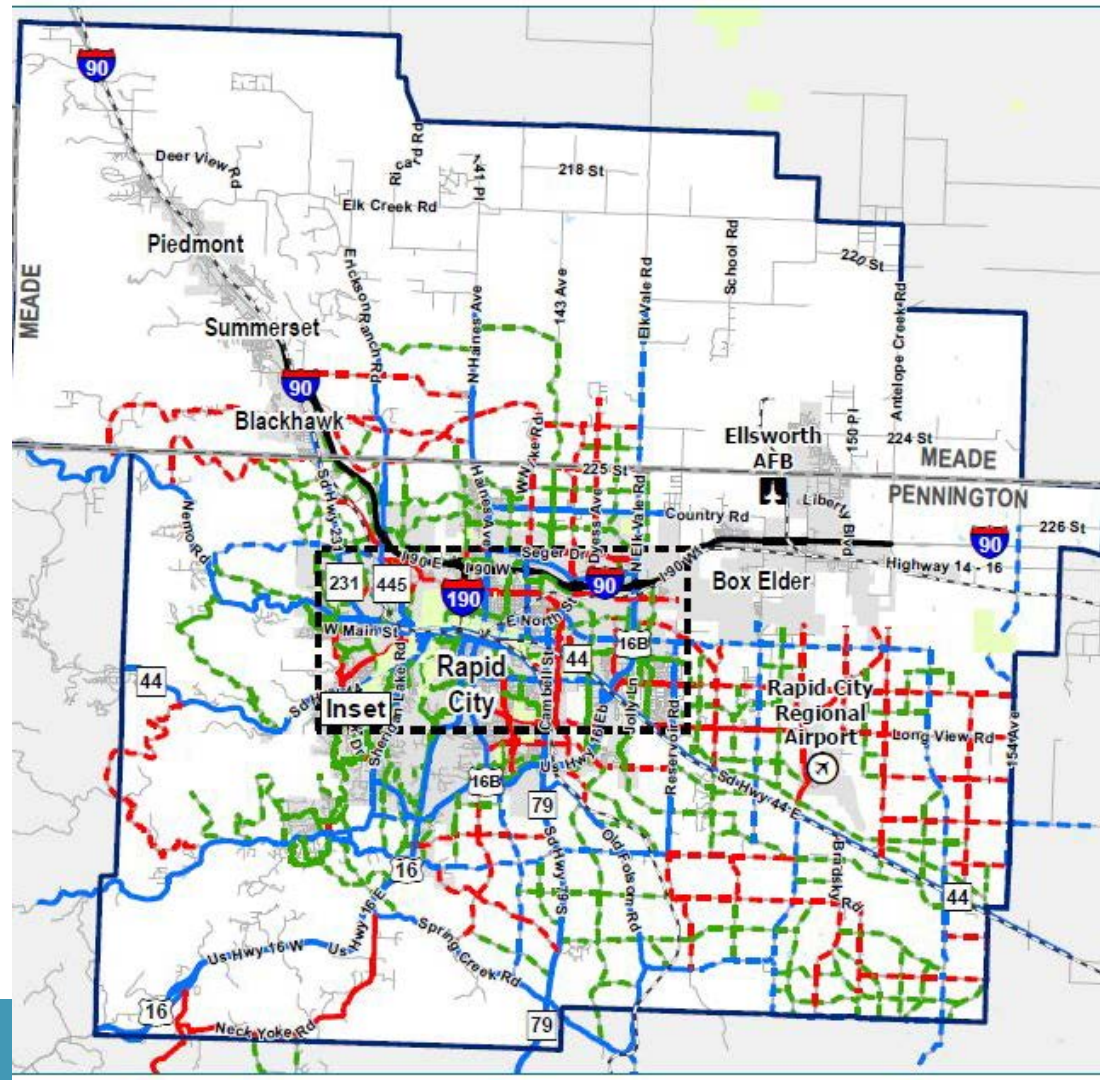
Consultant (HDR) Project Manager

- Rapid City MPO Staff
- SDDOT Staff
- Study Consultant



BACKGROUND INFORMATION

- Metropolitan Transportation Plan (MTP) - Formerly known as Long Range Transportation Plan
- MPOs must update every five years
 - Plan to accomplish transportation goals
- Includes all modes of travel
 - Highway, Bicycle, Pedestrian, Transit, Freight
- Projects must be in the MTP to be included in Transportation Improvement Program (TIP)
- Must be fiscally constrained
- Promotes regional performance measures and targets
- This MTP targets goals, strategies, etc. for the year 2045 planning horizon



PROJECT SCOPE/TASKS

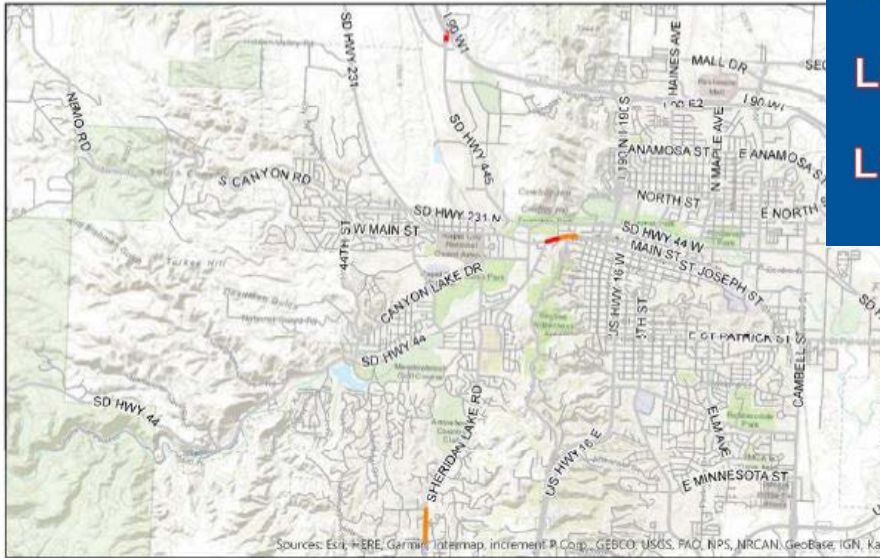
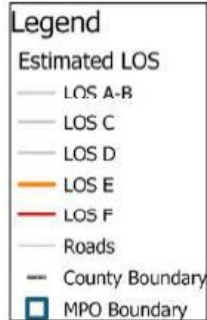
- Travel Demand Model Development and Validation
- Existing System Review (Capacity, Safety, multi-modal)
- Year 2045 Transportation Needs Plan and Fiscally Constrained Plan
- Major Street Plan Update
- Bicycle and Pedestrian Plan Update



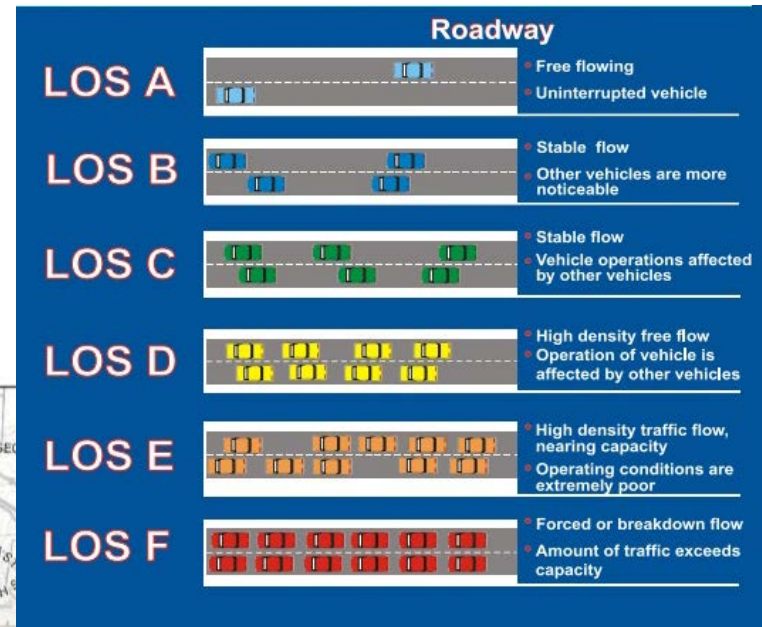
MTP – PLANNING LEVEL TRAFFIC OPERATIONS

- Looks at existing segment traffic volumes and compares to capacity of facility

Rapid City MPO
Existing Peak Period
Traffic Operations

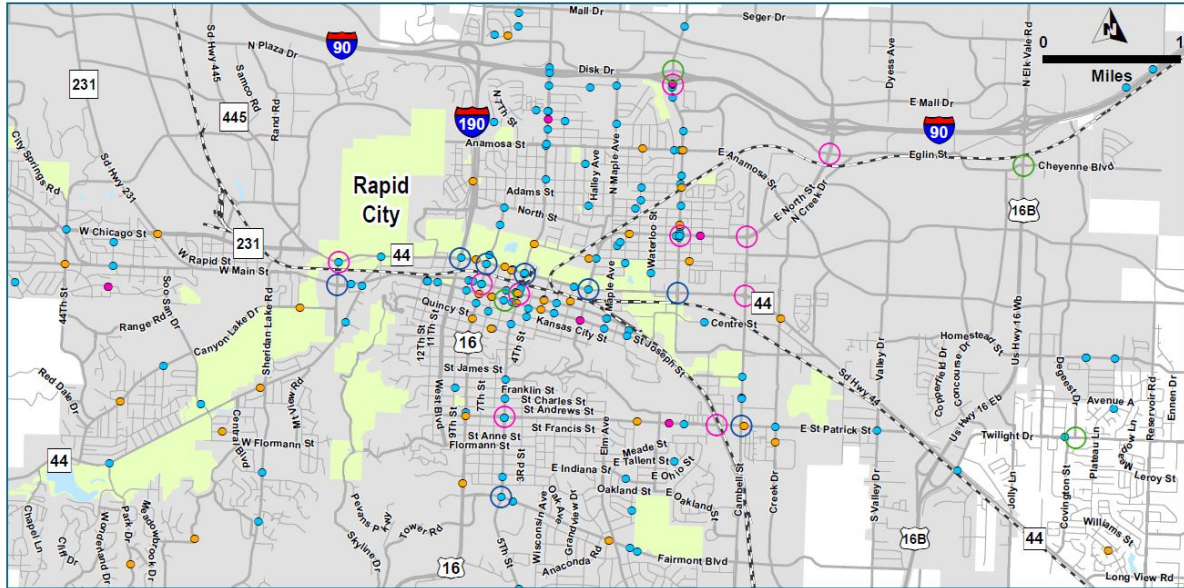


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, MRCAN, GeoBase, IGN, Kad



MTP – EXISTING SAFETY ANALYSIS

- Looks at prior five years of crash data (2014 -2018)
 - Identified top frequency and crash rate intersections



MTP – MULTI-MODAL

- Planning Level Review of: transit/bus, air, freight



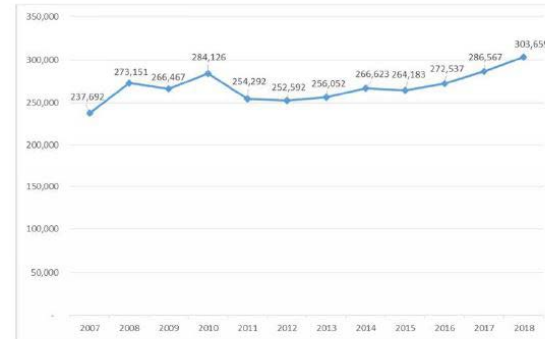
Table 8: Fixed Route Operating Statistics, Rapid Transit⁵

| Measure | 2013 | 2014 | 2015 | 2016 | 2017 |
|-------------------|---------|---------|-----------|---------|---------|
| Passenger Trips | 304,599 | 287,623 | 291,206 | 295,060 | 348,210 |
| Revenue Hours | 20,328 | 19,490 | 19,452 | 19,755 | 21,043 |
| Revenue Miles | 294,439 | 294,080 | 290,101 | 289,699 | 289,031 |
| Operating Expense | 941,516 | 986,199 | 1,009,286 | 988,280 | 997,384 |
| Passenger Revenue | 239,430 | 251,235 | 229,542 | 226,710 | 174,897 |

Table 9: Demand Response Service Operating Statistics, Rapid Transit

| Measure | 2013 | 2014 | 2015 | 2016 | 2017 |
|-------------------|-----------|-----------|-----------|-----------|-----------|
| Passenger Trips | 83,572 | 79,261 | 84,594 | 87,280 | 87,409 |
| Revenue Hours | 25,785 | 25,750 | 25,655 | 22,148 | 22,056 |
| Revenue Miles | 279,165 | 247,369 | 268,521 | 271,425 | 269,557 |
| Operating Expense | 1,061,779 | 1,112,051 | 1,115,526 | 1,107,993 | 1,042,327 |
| Passenger Revenue | 187,160 | 176,674 | 192,552 | 207,756 | 203,037 |

Figure 11: Annual Enplanements for the Rapid City Regional Airport, 2007-2018⁷

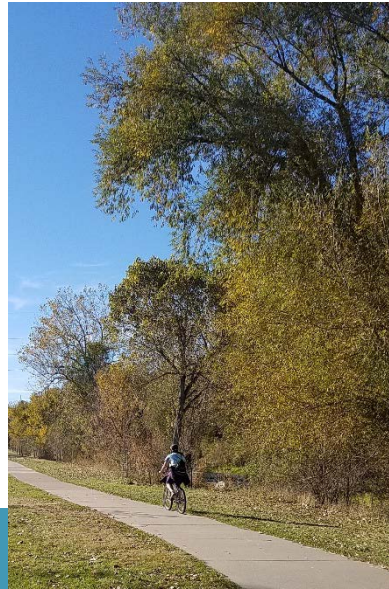


⁵Seasonal flights to Newark, NJ, Los Angeles, CA, and San Francisco, CA

⁷ Federal Aviation Administration, Air Carrier Activity Information System (ACAIS) data

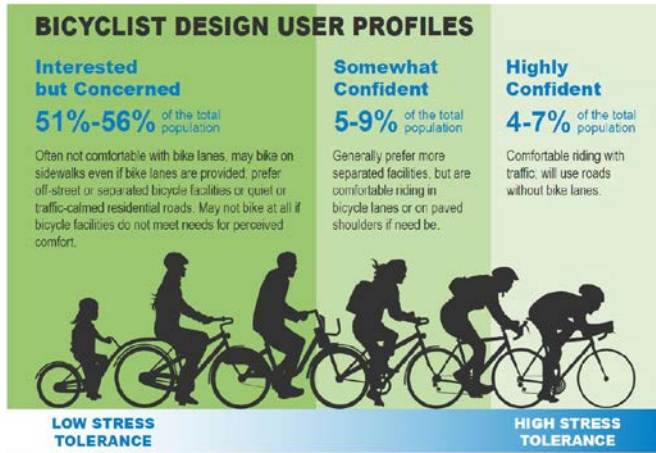
BIKE/PEDESTRIAN PLAN UPDATE

- Assessment of 2011 Plan Progress
- Level of Traffic Stress (LTS)
- Equity Analysis
- Bike/Ped. Demand Analysis
- Network Planning Methods

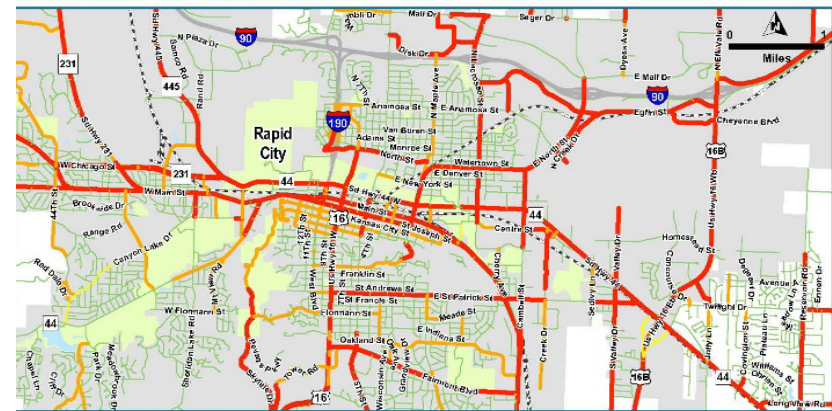
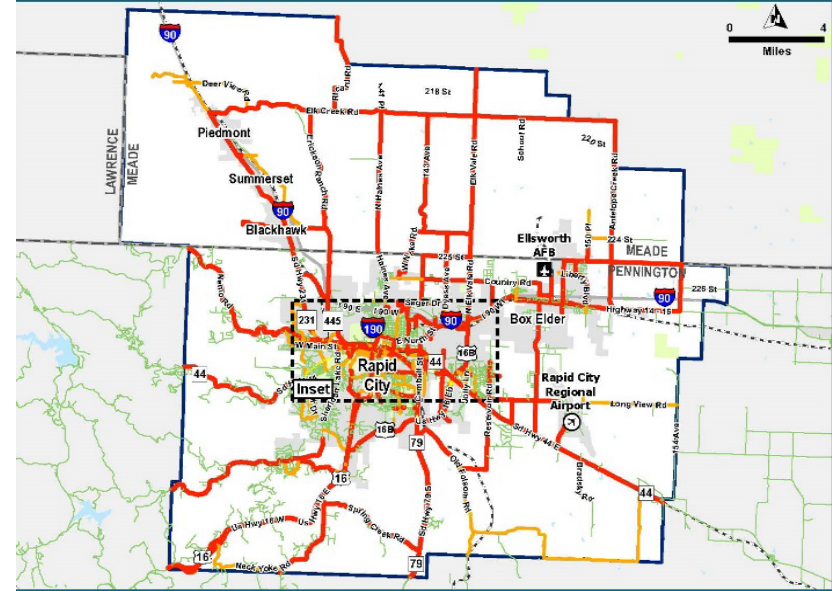


BICYCLE LEVEL OF TRAFFIC STRESS

- 1 All Ages & Abilities
- 2 Interested but Concerned
- 3 Somewhat Confident
- 4 Highly Confident

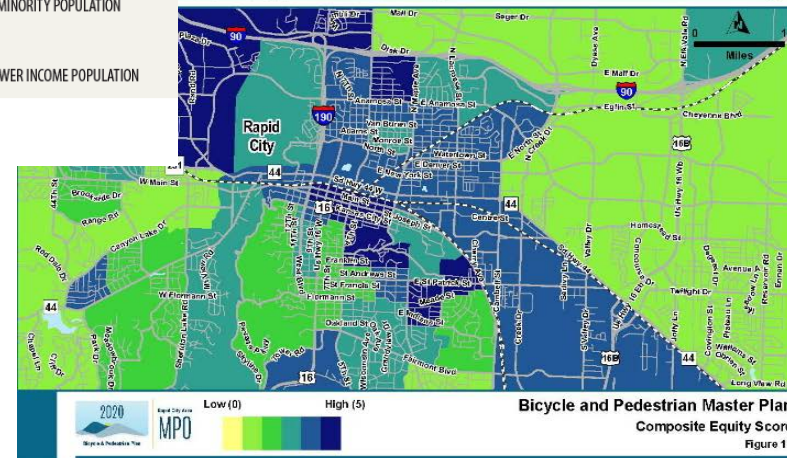
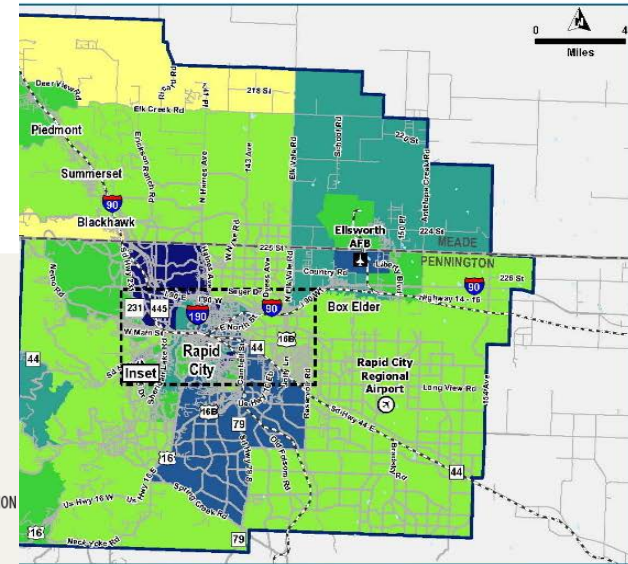
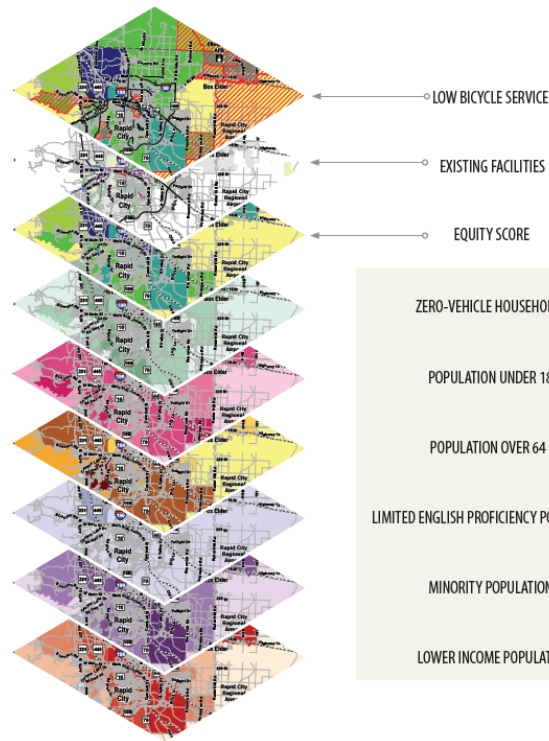


Source: FHWA
Bicycle Facility
Selection Guide



EQUITY ANALYSIS

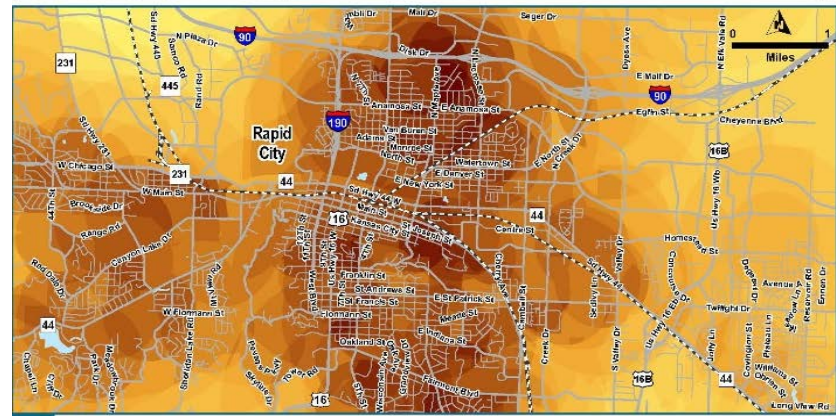
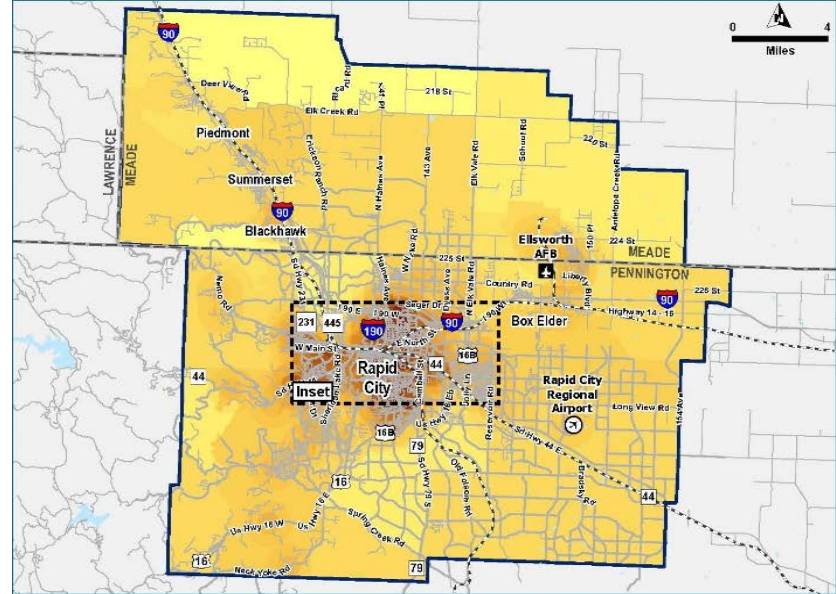
- Spatial Analysis of Key Demographic Patterns
- Compile Resulting Maps to Develop Overall Equity Scores for Areas within MPO
- Use Equity Scores Maps and Existing Facilities to Identify Areas of Low Bicycle Service
- Darker areas on composite map signify locations with concentrated socio-economic indicators



BIKE/PEDESTRIAN DEMAND ANALYSIS

- Three Components:
 - Population + employment density & employment / population ratio
 - Proximity to key destinations & typical walk & bike trip lengths
 - Composite equity score (census block)

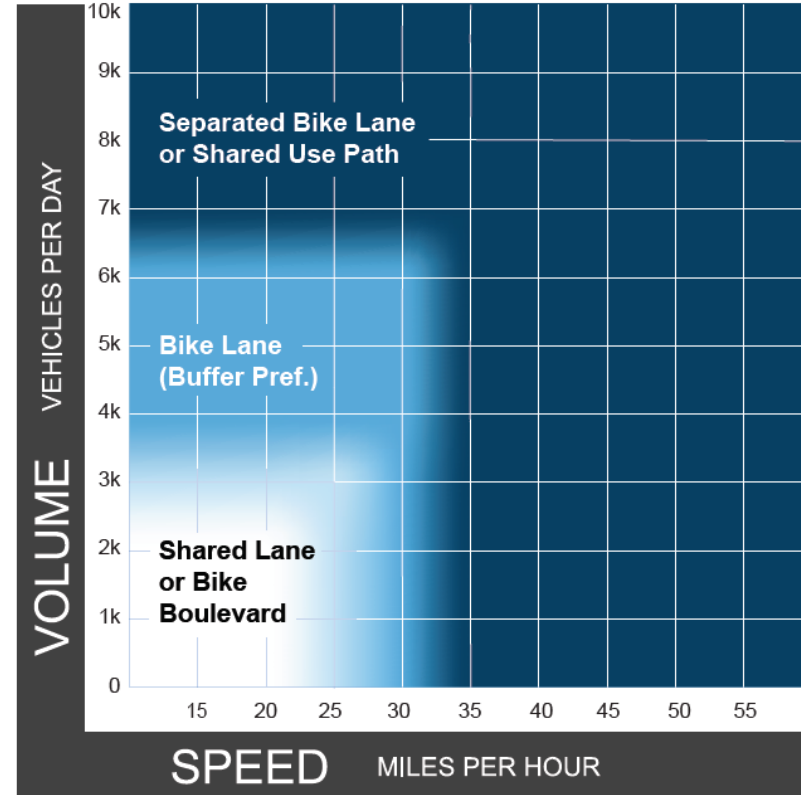
| Facility Type | Length |
|------------------------|--------|
| Bike Lane | 9.68 |
| Bike Path | 16.42 |
| Cycle Track | 0.28 |
| Shared Lane | 1.79 |
| Shoulder Bikeway | 18.47 |
| Side Path | 26.33 |
| Total Existing Mileage | 72.97 |



2020 MPO Bicycle and Pedestrian Master Plan
 Latent Bicycle Demand
 Figure 14

BIKE/PEDESTRIAN NETWORK PLANNING

- Review 2011 Plan projects – keep, remove, modify
- FHWA Bicycle Facility Selection Guide
 - Separated facilities at low volumes and speeds
 - Latest industry standard; AASHTO update will also contain same chart
- Identify / close network gaps
- Focus on low-stress facilities and crossings



Source: FHWA
Bicycle Facility
Selection Guide

PROJECT SCHEDULE



Gather information and data, existing network analysis, and model validation



Public Meeting #1



Continued model development, review of Major Street Plan, and development of Fiscally Constrained Needs Plan



Public Meeting #2



Finalize Fiscally Constrained Plan and Draft Report



Public Meeting #3



Present Final Report to MPO Committees



Study Complete



OPEN HOUSE GOALS

Public Participation

- Gather your input and ideas to shape the future transportation network and needs in Rapid City Area for the next 25 years
- Provide your ideas through:
 - Maps/Markers Exercise
 - Comment Sheets
 - Project Website: www.rapidtrip2045.com



THANK YOU!

Your attendance and input is appreciated!

- We look forward to seeing you at the next meeting next spring!

Follow the project at:

- www.rapidtrip2045.com



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