MPO & State DOT Collaboration in Regional Bicycle Planning

AMPO Planning Tools & Training Symposium
May 9, 2019
Introduction

Metropolitan Council/MnDOT Collaboration Opportunities

- Highway corridor studies
- Regional and Metro district area bicycle network plans
- Statewide and regional transportation policy plans
- Regional planning, specific-issue studies
- MnDOT highway project planning
Developing a Regional Bicycle Transportation Network
Regional Bicycle Transportation Network

Regional Bicycle System Study

Work Outcomes:

• Evaluate connectivity of existing network
• Determine key regional destinations
• Develop guiding principles/criteria for defining regional bicycle corridors
• Develop a proposed regional bicycle network for transportation
RBTN Guiding Principles

• Overcome physical barriers & eliminate system gaps
• Facilitate safe and continuous trips to regional destinations
• Function as arteries to connect regional destinations & transit system year round
• Connect to local & state bikeways
• Accommodate a broad range of cyclist abilities and preferences
• Integrate &/or supplement existing & planned infrastructure
• Provide improved opportunities to increase bicycle mode share
• Consider opportunities to enhance economic development
• Be equitably distributed throughout the region
• Follow spacing guidelines to reflect established development and transportation patterns
Regional Bicycle System Study

Bicycle Corridor Development Factors:

- Existing/future population density
- Connectivity to regional destinations
  - Metropolitan, regional & sub-regional job centers
  - Regional sport & entertainment venues
  - High schools, colleges & univ’s
  - Popular regional parks
- Public feedback routes/destinations
- Bicycle travel demand
- Connectivity to regional transitways/transit stations
- Social equity
Bicycle Trip Analysis

- 27,000 origins/dest’s
- 83,000 unique routes
- 2.3 million route assignments
Regional Bicycle Transportation Network
Regional Bicycle Transportation Network

RBTN establishes regional “backbone” arterial network to serve daily bicycle transportation needs by connecting regional destinations and local bicycle networks.

**Corridors**
- Specific alignments not yet designated
- Provide connections to & between regional destinations

**Alignments**
- Identified existing or planned trails and on-street bikeways within corridors
Regional Bicycle Barriers Study
Policy Background

Critical Bicycle Transportation Links

“Physical barriers to bicycle transportation disrupt the connectivity of regional & local bikeway networks and act as major obstacles for residents...[accessing] key destinations. Links overcoming these barriers are defined as critical bicycle transportation links.”

Critical bicycle transportation links include:

• Closing a gap in the RBTN or connecting a local bikeway to a major regional destination
• Improving continuity & connections between jurisdictions (on or off RBTN)
• Improving or removing a physical barrier (on or off RBTN)
Regional Bicycle Barriers Study

General Study Tasks

• Define regional physical barriers to bicycling & analyze where they most impact continuity of regional and local bicycle networks

• Assess existing and potential bicycle crossing opportunities of regional barriers

• Prioritize barrier crossing improvement locations based on data-driven analysis
Considered major physical regional barriers to bicycle travel including:

- Freeways and expressways
- Railroad corridors
- Secondary rivers & streams
Regional Bicycle Barriers Study

Barrier Analysis

Factors

• Safety/existing conditions
• Network connectivity:
  - on local bikeway networks
  - to regional destinations
  - to regional transit system
• Potential bicycle travel demand
  - population density
  - employment density
  - trip mode split
• Social equity
Regional Bicycle Barriers

Barriers
- Freeways and expressways
- Rail line corridors
- Secondary rivers and streams

Other
- Municipal Boundary
- Water
- Park

Scale: 0 2 4 miles
## Reg. Bike Barrier Crossing Spacing

<table>
<thead>
<tr>
<th>Thrive Planning Areas</th>
<th>Preferred Maximum Distance bet. regional bike barrier crossings</th>
<th>Example Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Center</td>
<td>(\frac{1}{2})-mile</td>
<td>Minneapolis, St Paul, Richfield, Hopkins, West St Paul</td>
</tr>
<tr>
<td>Urban</td>
<td>(\frac{3}{4})-mile</td>
<td>Golden Valley, Roseville, Maplewood, Crystal, Edina, N St Paul</td>
</tr>
<tr>
<td>Suburban, Suburban Edge, Emerging Suburban Edge</td>
<td>1 mile</td>
<td>Blaine, Woodbury, Maple Grove, Eagan, Lakeville</td>
</tr>
<tr>
<td>Rural Residential, Diversified Rural, Agriculture</td>
<td>2 miles</td>
<td>Grant, Afton, Ham Lake, Lake Elmo, Independence</td>
</tr>
</tbody>
</table>
Regional Bicycle Barrier Crossing Improvement Areas: Freeways & Expressways
Regional Bicycle Barrier Crossing Improvement Areas: Railroads & Streams
Major River Barrier Crossings

- Major rivers outside the RBBS scope
- High-level assessment to determine where bikeways exist or are planned
- Map incorporated in 2018 TPP Update
- TPP establishes these crossings as a high priority for regional planning & investment.
Regional Studies--Next Steps

Regional Solicitation criteria:
- Incorporate **RBBS crossing improvement locations** into project selection criteria
- Incorporate **Major River Bicycle Barrier Crossings** into Regional Solicitation project selection criteria
- Proposing additional scoring criteria for
  - Multi-use Trails/Bicycle Facilities
  - Bridge projects
  - Roadway expansion/reconstruction projects

Future Study:
- Guidelines for bicycle facilities on RBTN alignments
Developing MnDOT’s Metro District Bicycle Plan
Bicycle Planning at MnDOT

- Statewide Bicycle System Plan sets policy
- Workplan in SBSP identified need for district-level plans
- District Bicycle Plans framed as a collaborative effort between MnDOT District planning staff and Office of Transit + Active Transportation
Metropolitan Planning Organizations

• 7 of MnDOT’s 8 districts include an MPO
• District Bicycle Plans included close coordination with local partners (MPOs, RDCs, Cities and Counties)
MnDOT District Bicycle Plans

- Tailored approaches to best fit the context of each MnDOT District
- Build on MnDOT Metro District + Metropolitan Council’s significant work on bicycling
District Bicycle Plan Goals

- Support local bicycle networks
- Prioritize MnDOT’s bicycle investments in Metro District
- Identify actions for MnDOT District staff to take in advancing bicycling
District Bicycle Plan Outcomes

- Connect stakeholders through conversation
- Identify key MnDOT projects where bicycle improvements have high impact
- Inform maintenance and safety improvements
- Take steps towards estimating bicycle infrastructure need for investment purposes
Analyzing Minnesota

- Minnesota split into 500,000+ hexagons (about ½ mi across)
Hexagon Aggregation

- Example (pop 65 and older)
- 55130 = 20%
- 55101 = 15%
- 55130 = 10%
- \((0.2 \times 0.617) + (0.15 \times 0.208) + (0.1 \times 0.174) = 17.2\%\)
Space Analysis Overview

- SPACE (Suitability of Bicyclist and Pedestrian Environment)
- Leverage internal and external data
- Choose topics of interest, then find data
- Develop a framework to estimate bicycle need and activity
What did we score? (1 of 2)

Population and Equity
• Serves children and youth
• Serves older adults
• Serves people with disabilities
• Serves people of color
• Serves Native American populations or Tribal reservations
• Serves immigrant populations
• Serves areas with high population density
• Serves people with no vehicle access

Activity Generators
• Connects to high-priority destinations
• Connects to transit/multi-modal hubs
• Serves areas with high employment density
• Proximity to schools and parks
What did we score? (2 of 2)

Network
• Connects to existing on- or off-street bikeway
• Spacing between other bikeways

Plan Consistency
• Aligns with planned local and regional bikeways

Safety
• Addresses intersection safety concerns
What does it look like?
MnDOT Metro District Bicycle Plan

Metro District Bicycle Plan Elements

- State Bicycle Route Network Priority Corridors
- Metro District Priority Corridors Connecting to the RBTN
- RBTN and Local Bikeways on MnDOT Highways
- MnDOT Highway Barriers to Bicycling
- MnDOT Highways Crossing Barriers
- Prioritization Framework
Met Council's RBTN & MnDOT Trunk Highways
Regional Bicycle Barrier Crossings

MnDOT Highways that Cross Regional Barriers in the TPP
- Freeway and Expressway Barriers
- Railroad Barriers
- Stream Barriers
Local Bicycle Plans

Regional Bicycle System Inventory Within 200 ft of MnDOT TH
- District Boundary
- Water
- Parks
- Existing Bikeways
- Planned Bikeways
Trunk Highway Planning & Implementation

Highway Corridor Planning Studies

- I-694 Non-Motorized Crossing Study (New Brighton to Maplewood)
- Snelling Ave (TH 51) Multi-modal Transportation Study (Saint Paul)
- Concord Street (TH 156) Corridor Non-Motorized Improvements Study (South St Paul)
- Central Ave (TH 65) Safety & Mobility Corridor Study (Blaine/Ham Lake)
Trunk Highway Planning & Implementation
I-694 Non-Motorized Crossing Study

Data: State of Minnesota, Metropolitan Council, Ramsey County
Trunk Highway Planning & Implementation
Snelling Ave (TH 51) Multi-modal Study

PARALLEL BIKE ROUTE OPTIONS
Aldine, Fry, & Pascal

FIGURE 1
Concord Street (TH 156) Corridor Non-Motorized Improvement Study
- Study led by City of South St. Paul
- Short term improvements identified for TH 156 resurfacing project (2021).
- Longer term improvements including full sidewalks and bicycle facilities and trail connections also identified.

Central Ave (TH 65) Safety & Mobility Corridor Study
- Ongoing study through Spring Lake Park, Blaine & Ham Lake.
- RBTN included in purpose statement and early project discussions
RBTN/Trunk Highway Implementation - MnDOT Bicycling Investment Projects
RBTN/Trunk Highway Implementation
- MnDOT Bicycling Investment Projects

5th Street SE over I35W Bike & Pedestrian Bridge
- RBTN Tier 1 alignment
- Funded through the Regional Solicitation process
- 5th Street bikeway connects the University of Minnesota community to greater MSP
Regional Planning Next Steps - MnDOT

Potential Uses for Prioritization Results

• Project Scoping
• Investment decision
• NEPA Process
• Corridor plans
• Maintenance decisions
• Others?

Scoping Checklist

Existing Conditions

- Are bicyclists legally prohibited from using the roadway (is there signage prohibiting bicycles)?
  - Yes
  - No (If yes, skip to Project Demand section)

- Is there currently a dedicated facility for bicyclists? This may include: shared use path, bicycle lane (separated or not), and/or a wide paved shoulder
  - Yes
  - No

- If there is an existing bicycle facility, what is the level of traffic stress (LTS) of the roadway?
  - LTS 1
  - LTS 2
  - LTS 3
  - LTS 4

Projected Demand

- Is the project located directly on or travel across an existing or planned bikeway? (i.e., Transportation Plan, Bicycle Plan, RBTN, DNR, City or County Plan)
  - Yes
  - No

- Is the project within a half mile of a school, and if so, is there a Safe Routes to School Plan that identifies a need for improvements?
  - Yes
  - No

- If there is an existing dedicated bicycle facility, is the existing LTS appropriate for potential users? LTS 1 and 2 are comfortable for all ages and abilities. LTS 3 and 4 are appropriate for more confident bicyclists.
  - Yes
  - No

Improvement Opportunities Across the Roadway

- Is the crossing identified in a regional or local plan?
  - Yes – RBTN crossing
  - Yes – local bikeway crossing
  - Yes – RBSI, RBTN, RBSs, TPP, Safe Route to School Plan, MnDNR Trail Master Plan, City or County Comprehensive Plan, or any similar
  - Yes – RBSs crossing opportunity area
  - Yes – Major River Bicycle Barrier Crossing
  - Yes – Other (SRTS, Trail Master Plan, etc.)
RBTN/Trunk Highway Implementation
Future Collaboration Opportunities

I-94 Corridor in West Lakeland Township
RBTN/Trunk Highway Implementation

Future Collaboration Opportunities
Collaboration in Regional Planning Takeaways

MnDOT/Met Council Collaboration

• Ongoing coordination between Met Council and MnDOT can ensure a wider range of bicycle planning needs are met across jurisdictions.
• Collaboration over time leads to more opportunities for effective planning coordination.
• Collective experience in jointly managed studies leads to a growing knowledge base in database development, technical analysis methods, & public outreach for regional studies/plans.
Thank you!

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