Roadways to Bikeways Plan
ADA COUNTY HIGHWAY DISTRICT




Open House #2
November 14, 2007

Parametrix

What We Learned at Open House #1

- Over 80% of attendees Enthused & Confident or Strong & Fearless Riders
- Connect up a corridor!
- Connectivity of entire system poor (over 50% of general written comments engineering/facility related)
- Preference for cross-sections without vehicle parking (free from “dooring” risk)
- Maintenance (sweeping, vegetation control, weed control, striping & signage) needs improvement
- I-84 / Bench / Boise River / canals are barriers

Purpose

- The Bicycle Master Plan will help guide ACHD's development of bicycle facilities by:
  - Identifying existing deficiencies
  - Providing a comprehensive strategy for expansion of existing bicycle facilities to increase connectivity and complete the bikeway network
  - Developing design guidelines
  - Developing education and outreach strategies

Goals & Objectives

- Goal 1: To complete a bicycle facility network that maximizes safety, provides connectivity, and supports and encourages everyone to consider the bicycle as a viable transportation mode.

Goals & Objectives

- Goal 2: Promote bicycle safety and increased bicycling through education, encouragement, and enforcement activities coordinated with public and private agencies within Ada County.

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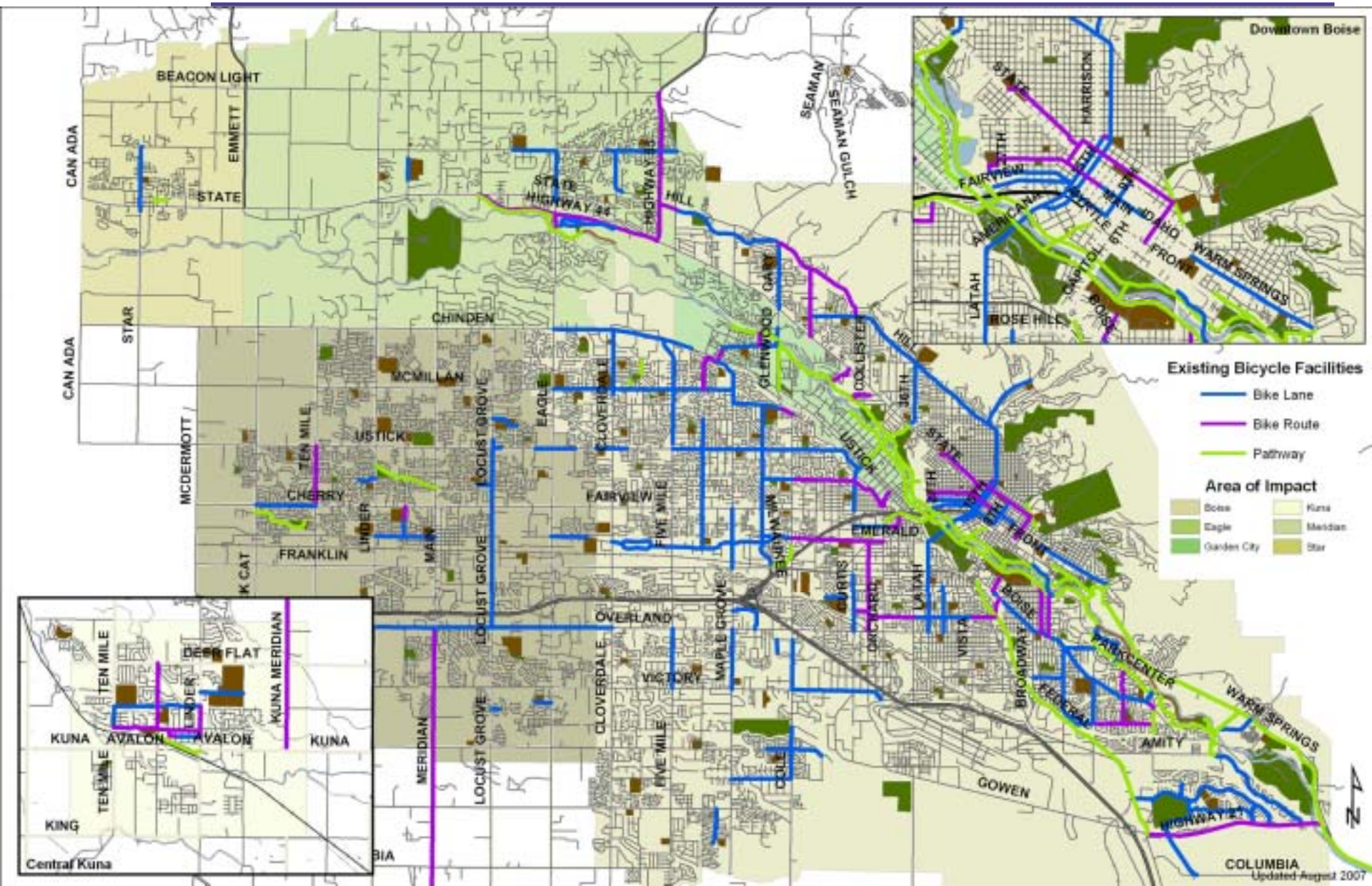
Goals & Objectives

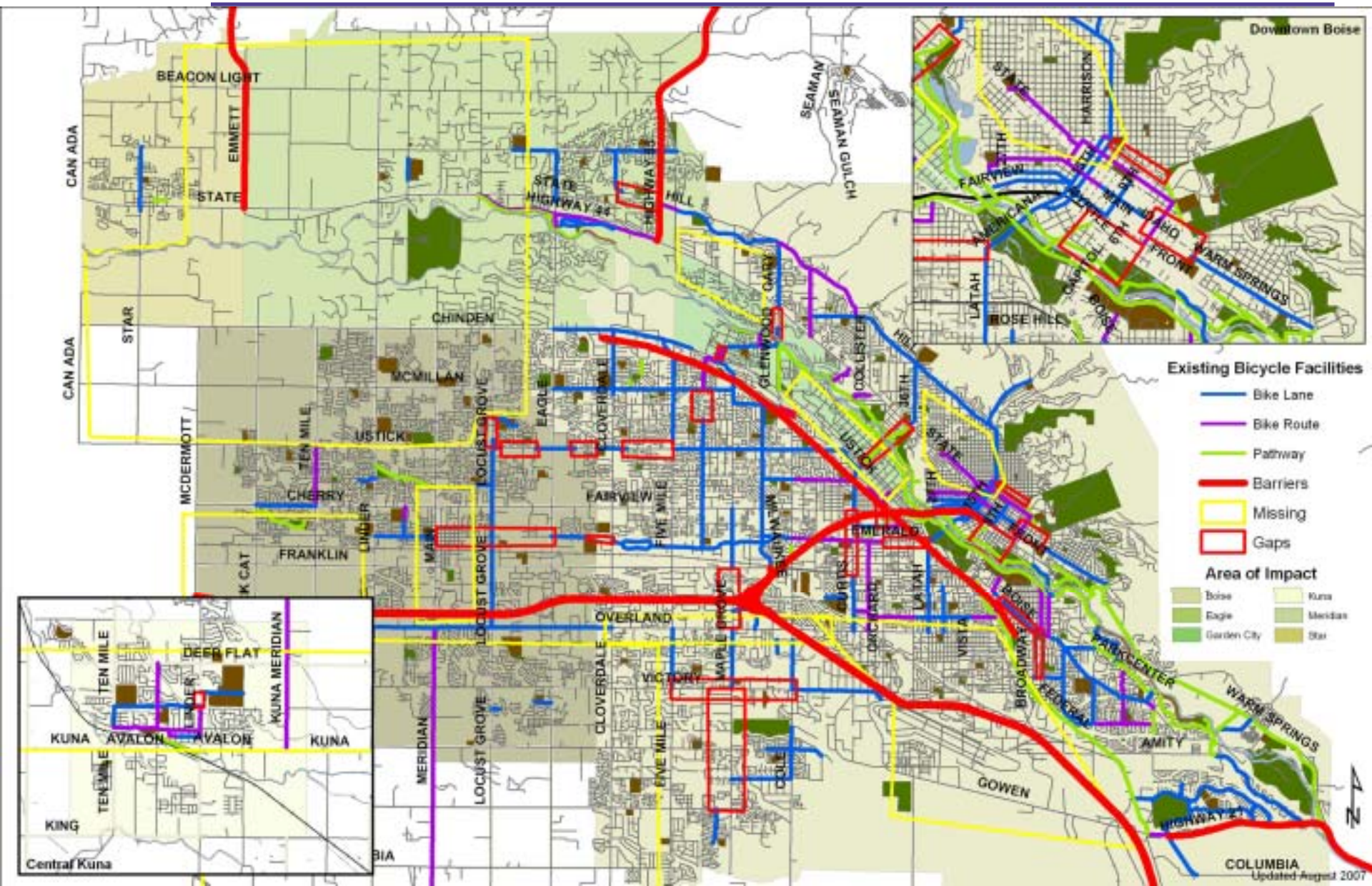
- Objective 1: Implement the Roadways to Bikeways Recommended Bikeway Network to encourage increased use of the bicycle for transportation.
- Objective 2: Encourage bicycle use as an alternative mode of travel for both local and commuter trips by publicizing routes and proper facility maintenance.
- Objective 3: Promote the provision of bicycle support facilities throughout Ada County.
- Objective 4: Promote bicycle safety and increased bicycling through education, encouragement and enforcement activities.
- Objective 5: Facilitate coordination and cooperation in development of the Roadways to Bikeways recommendations.

Existing Bikeway Network



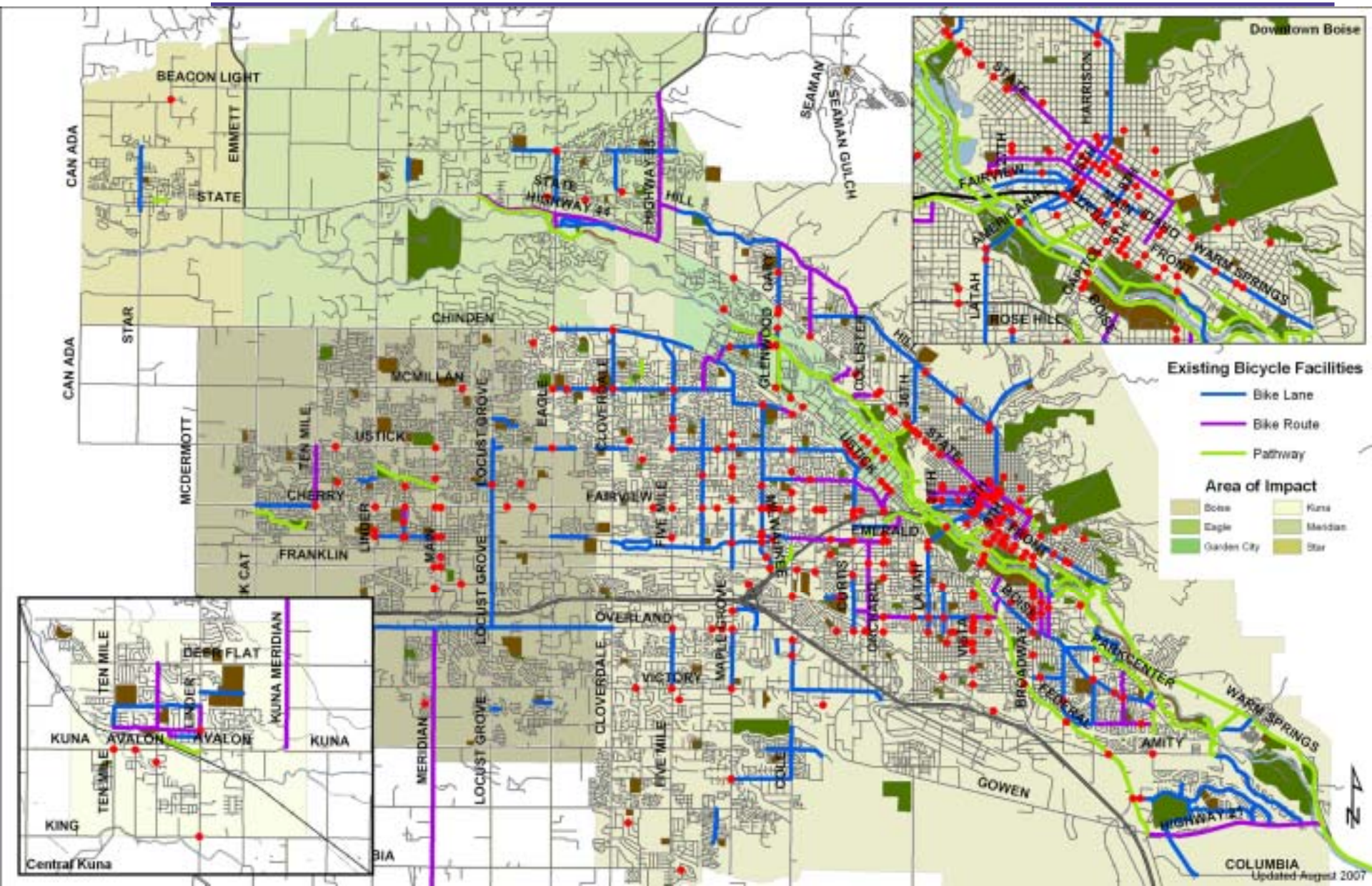
Bikeway Analysis:

Missing Network / Network Gaps



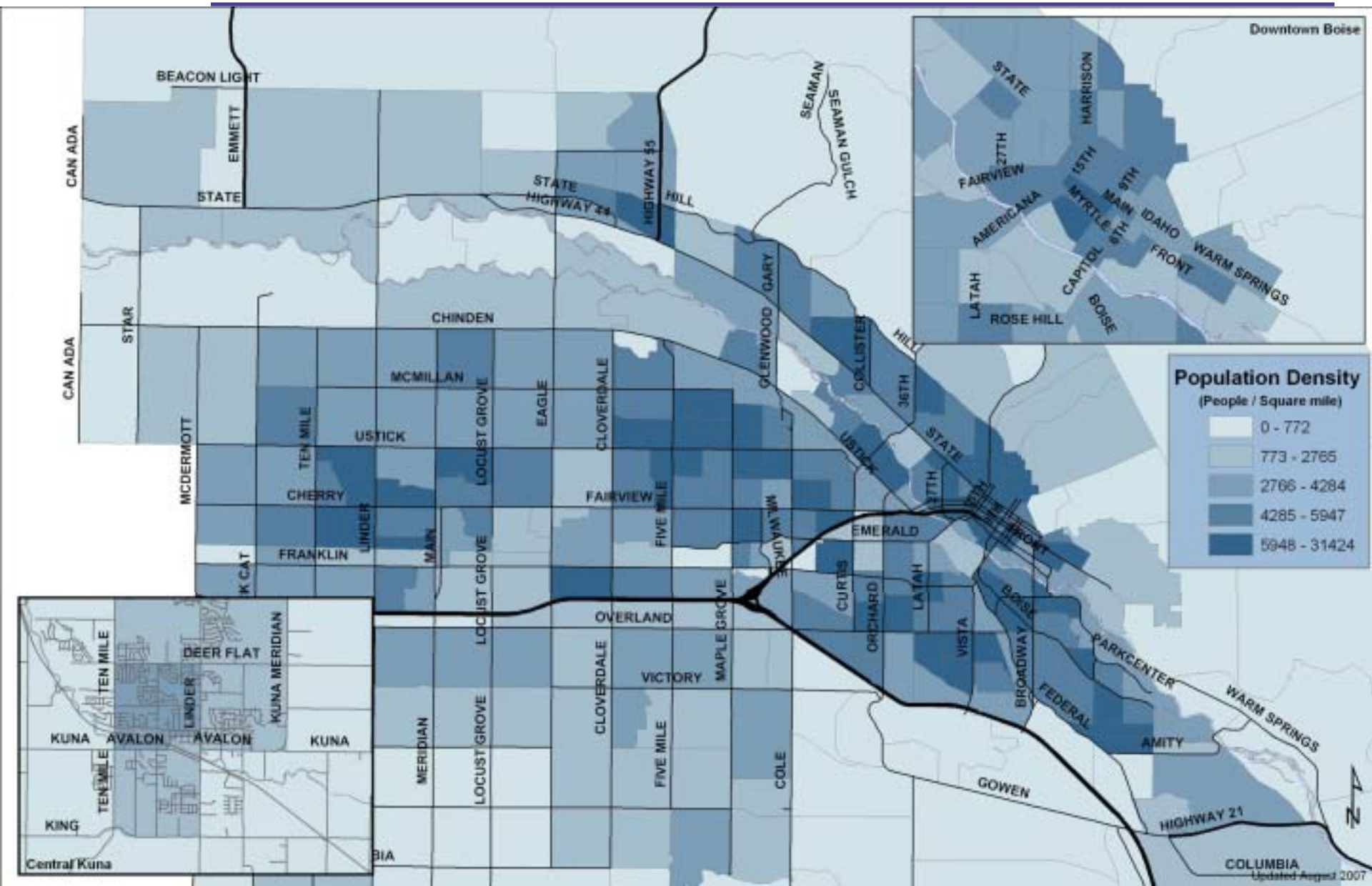
Bikeway Analysis:

Bicycle / Vehicle Crashes 2004-2006



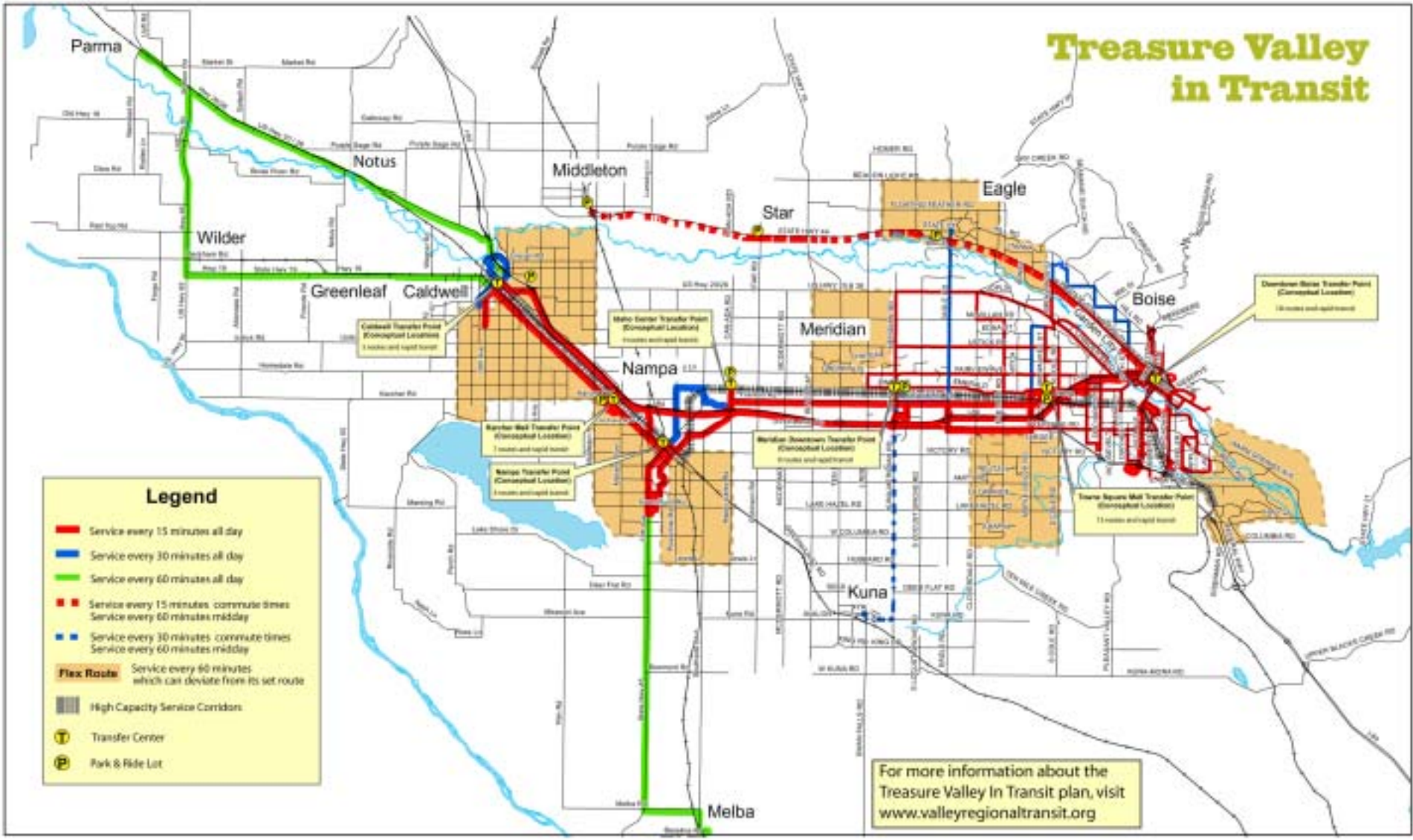
Bikeway Analysis:

Estimated Population Density - 2030

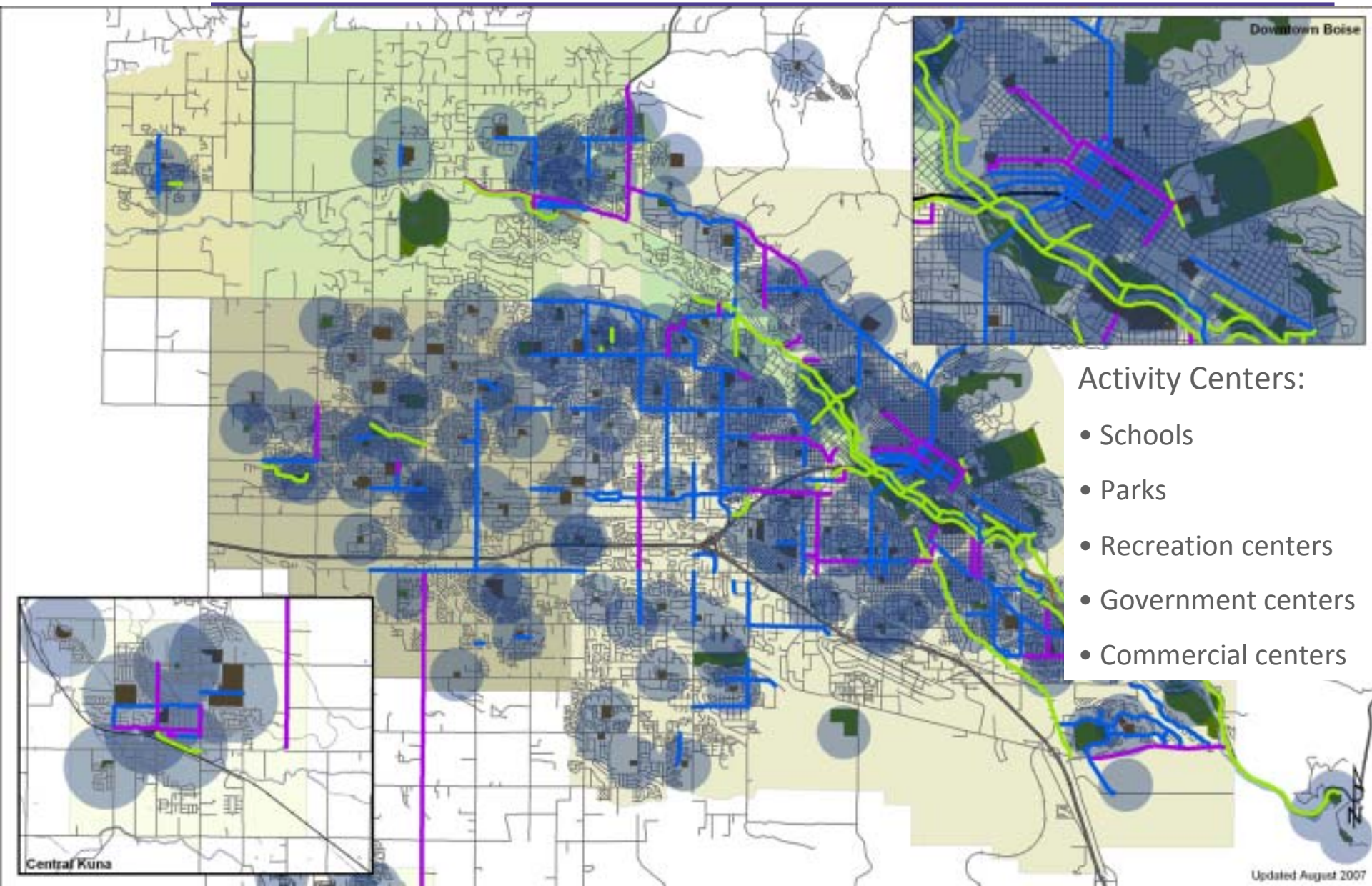


Bikeway Analysis:

Bicycle / Transit Connection



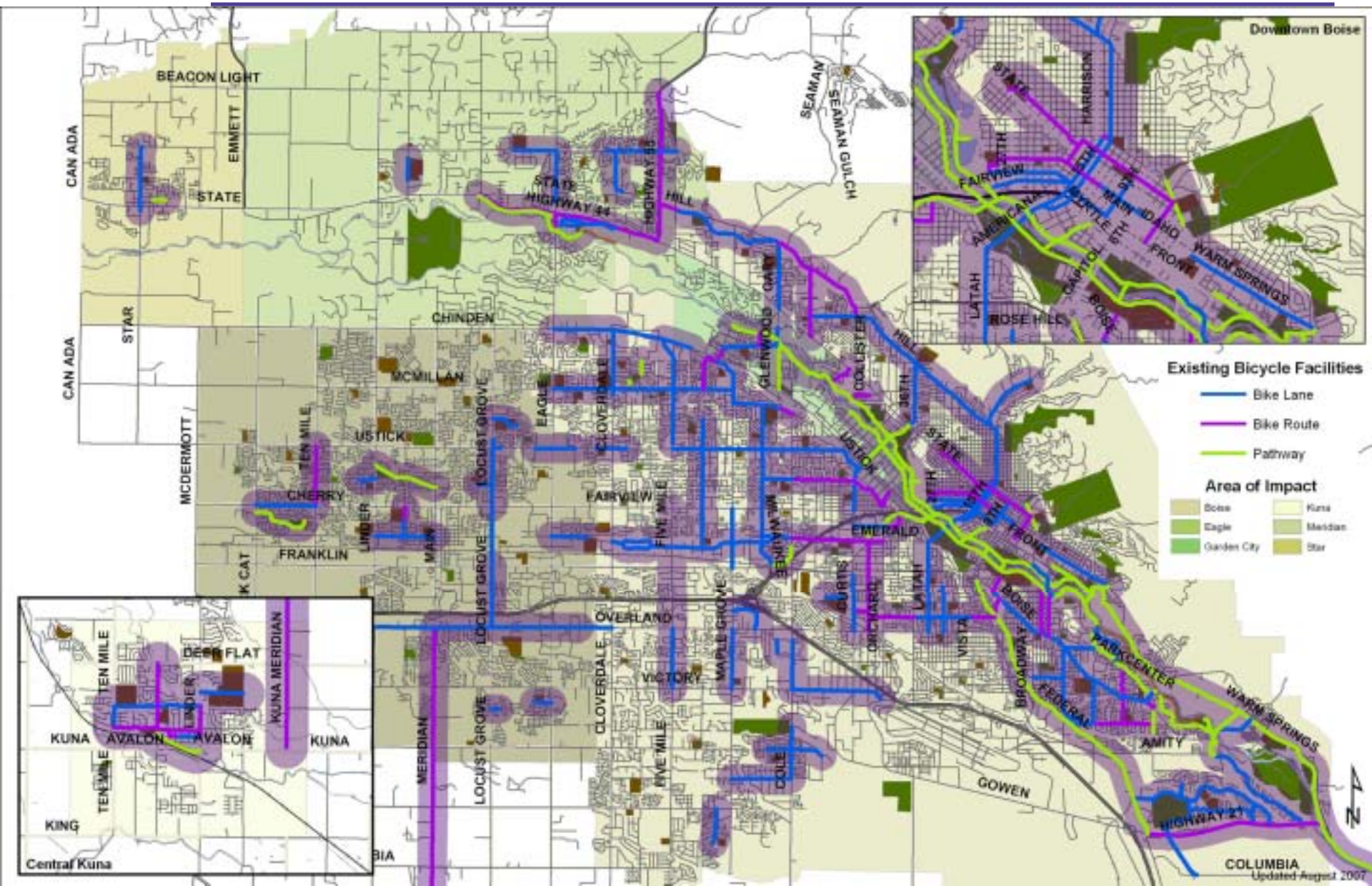
Bikeway Analysis:
Activity Centers



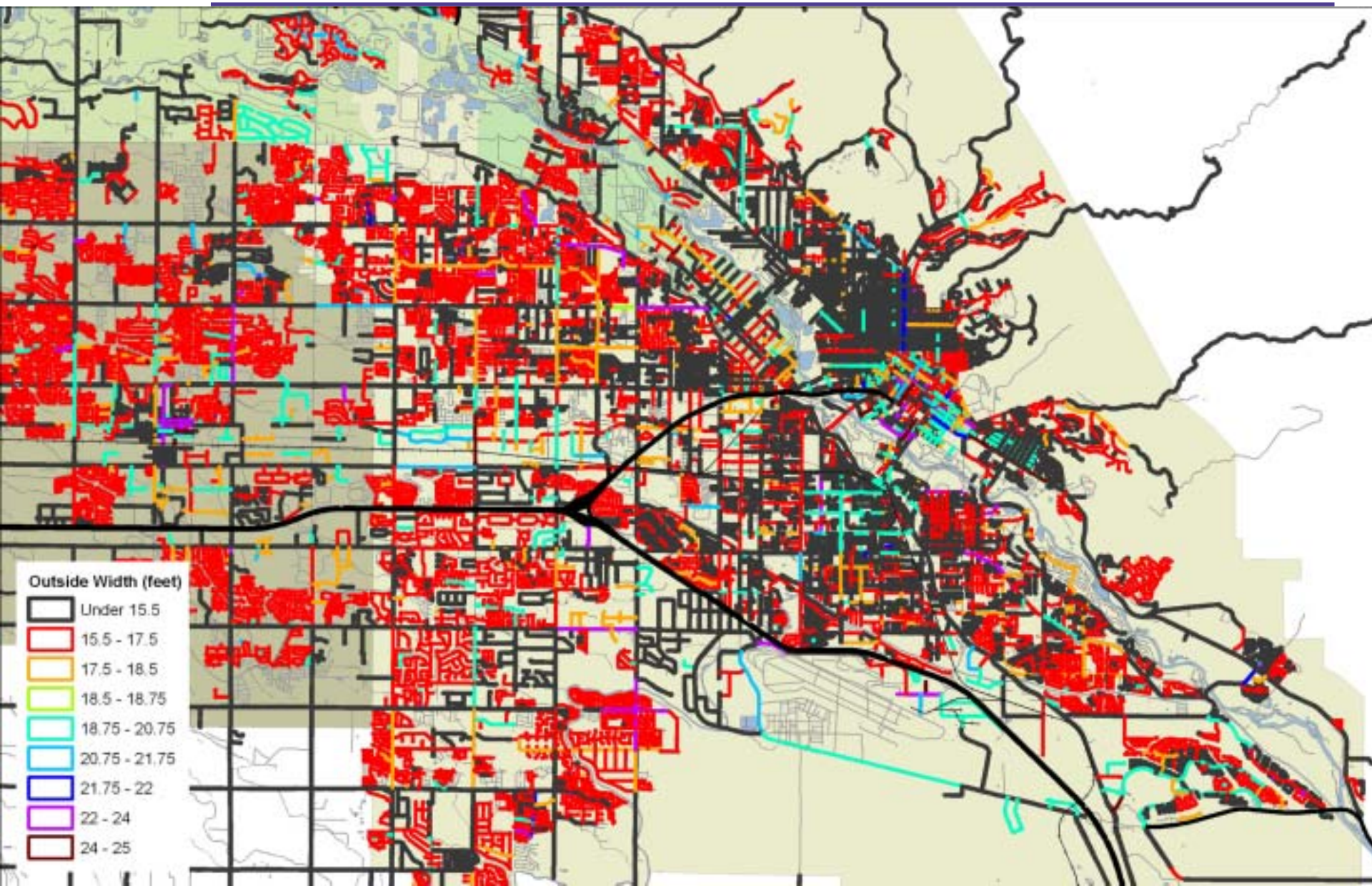
Activity Centers:

- Schools
- Parks
- Recreation centers
- Government centers
- Commercial centers

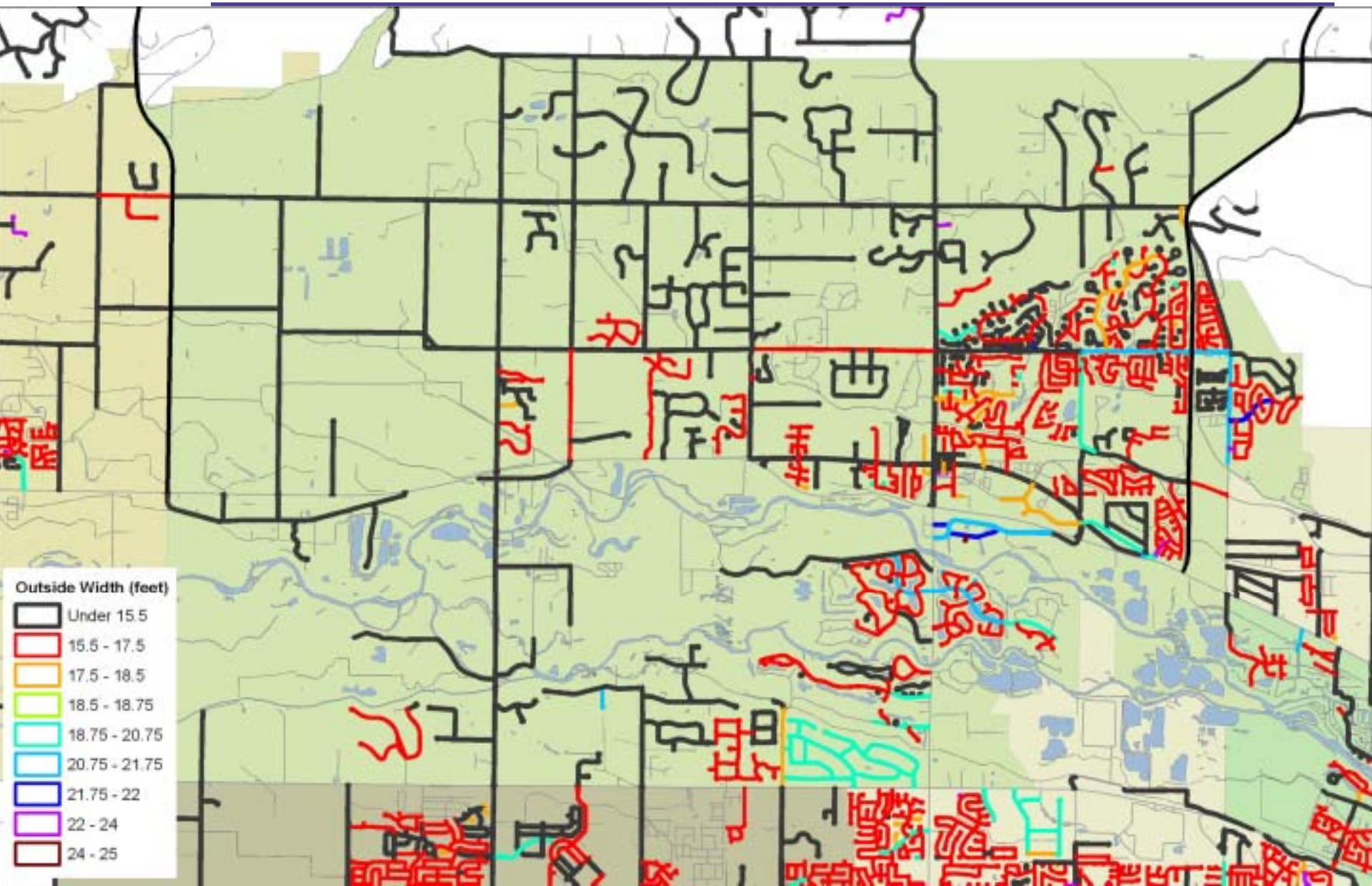
Bikeway Analysis:
Existing Network Coverage



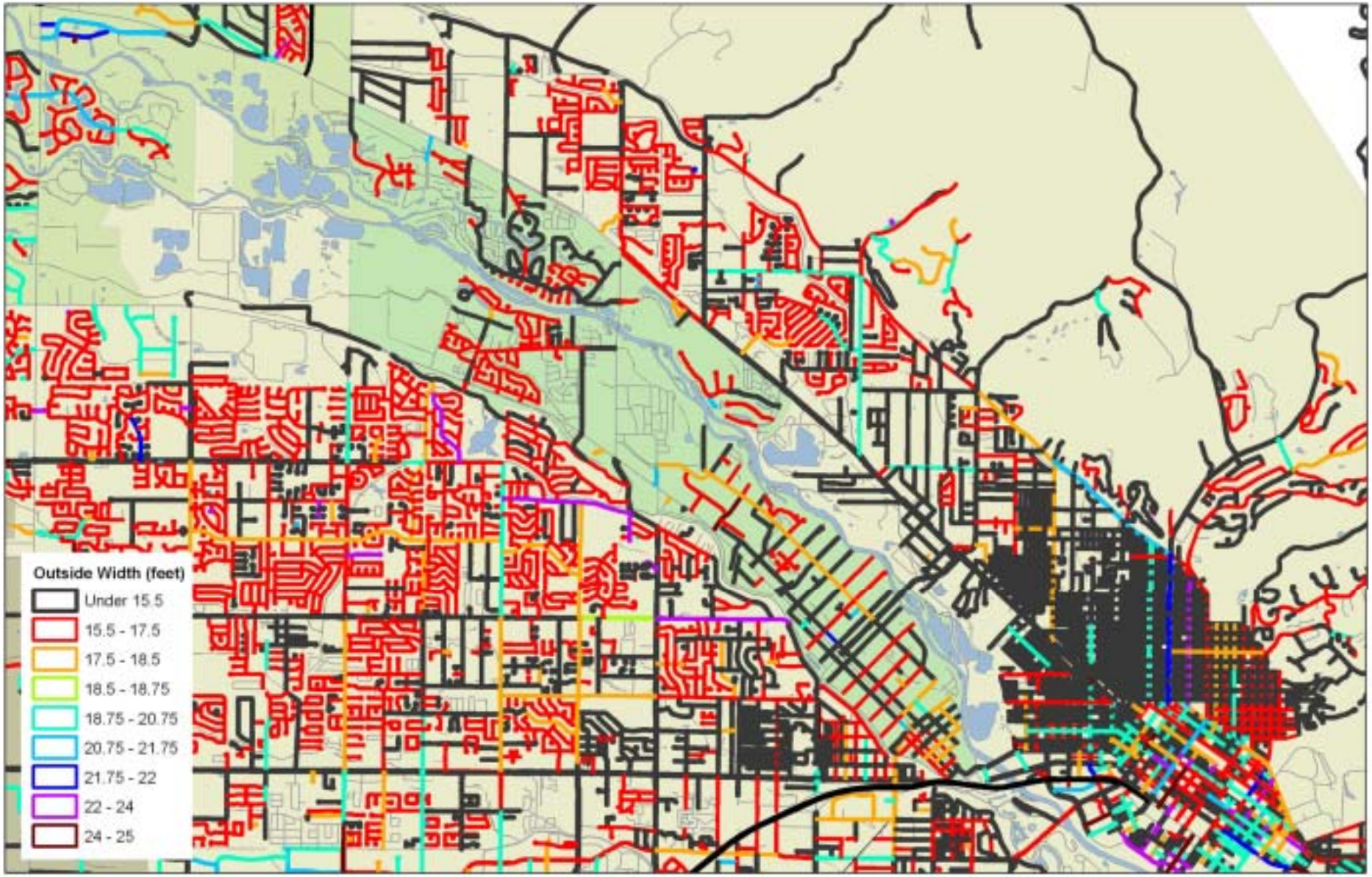
Bikeway Analysis:
Existing Lane Widths - Boise



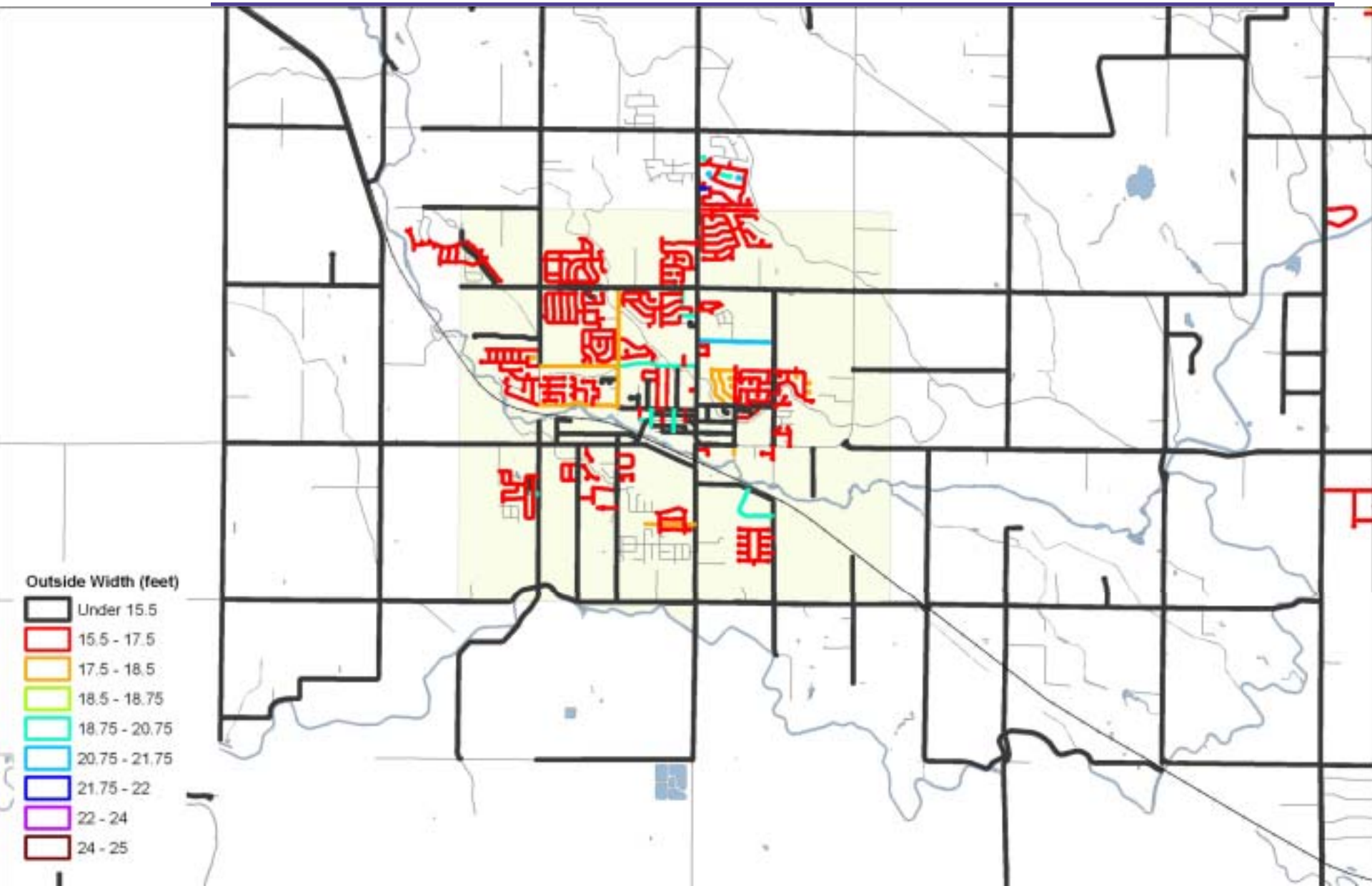
Bikeway Analysis:
Existing Lane Widths - Eagle



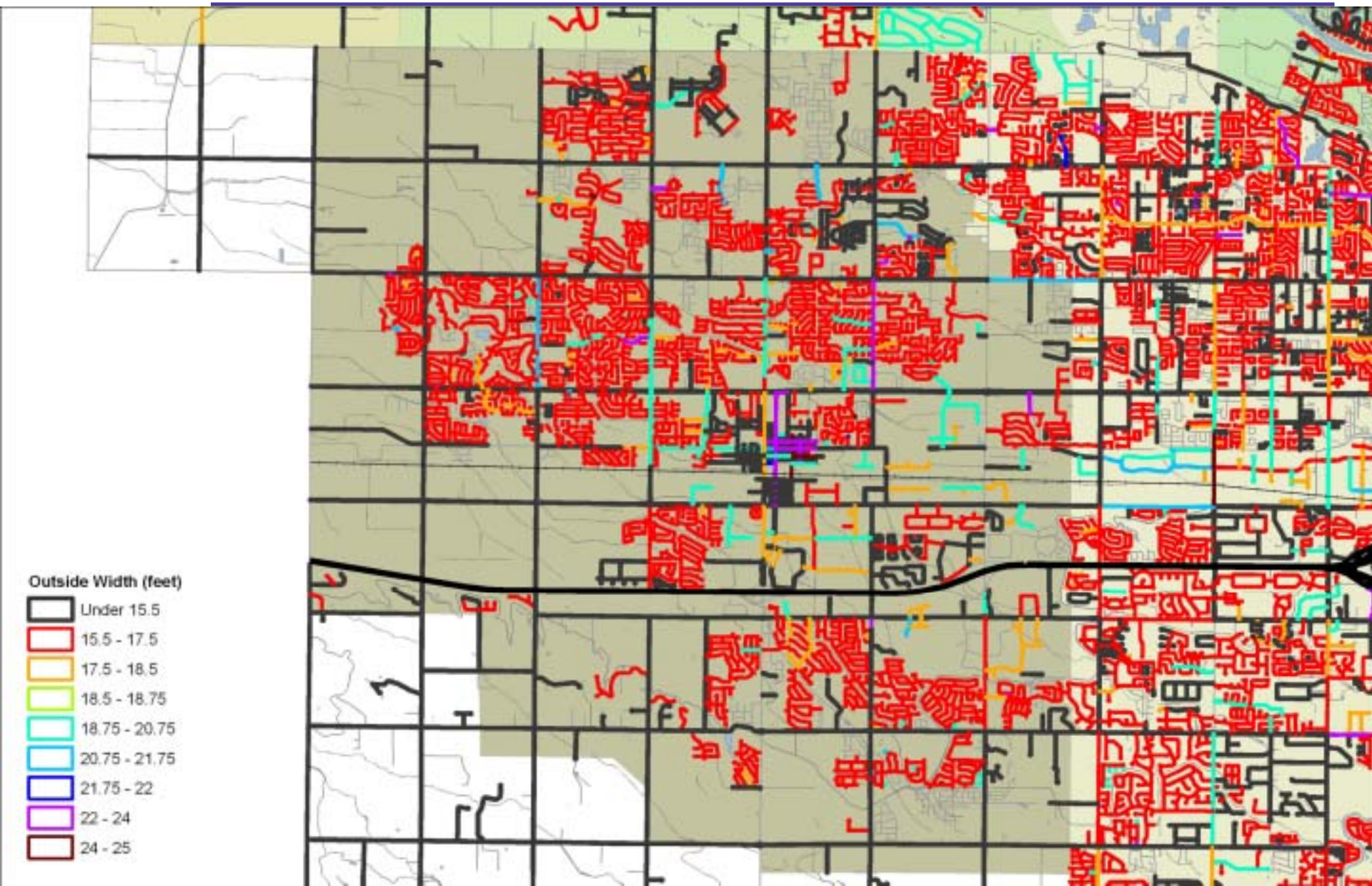
Bikeway Analysis:
Existing Lane Widths - Garden City



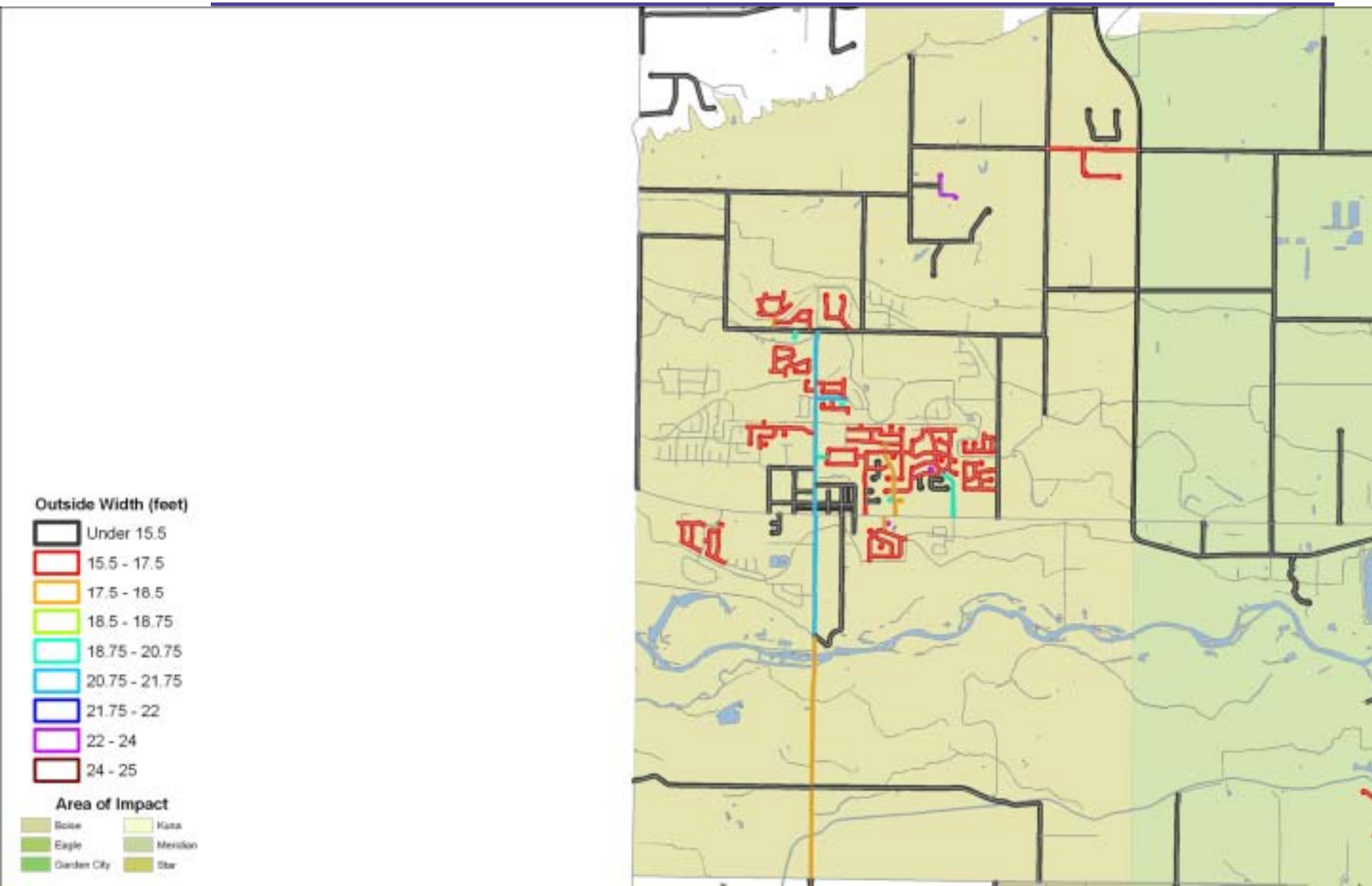
Bikeway Analysis:
Existing Lane Widths - Kuna



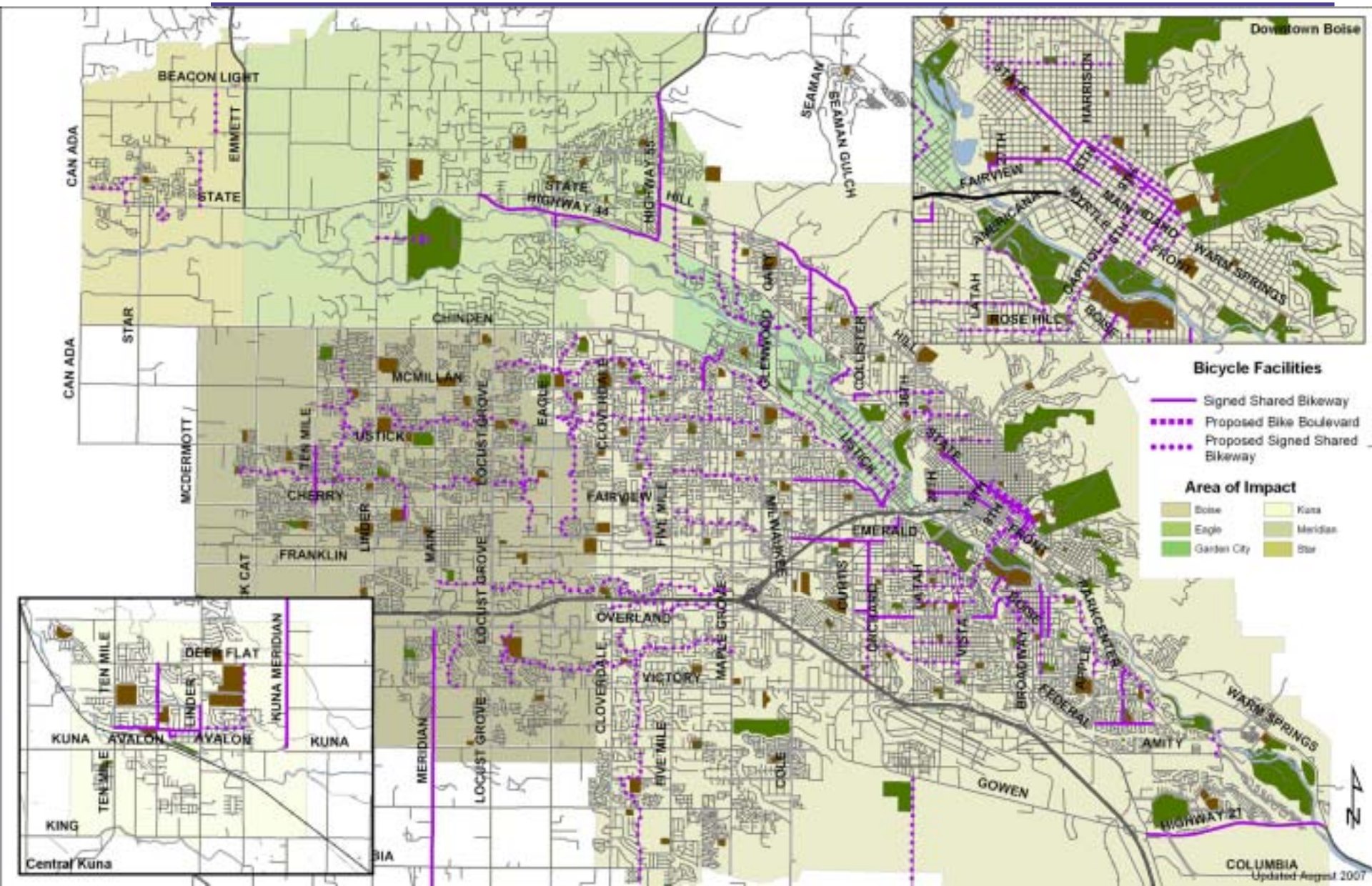
Bikeway Analysis:
Existing Lane Widths - Meridian



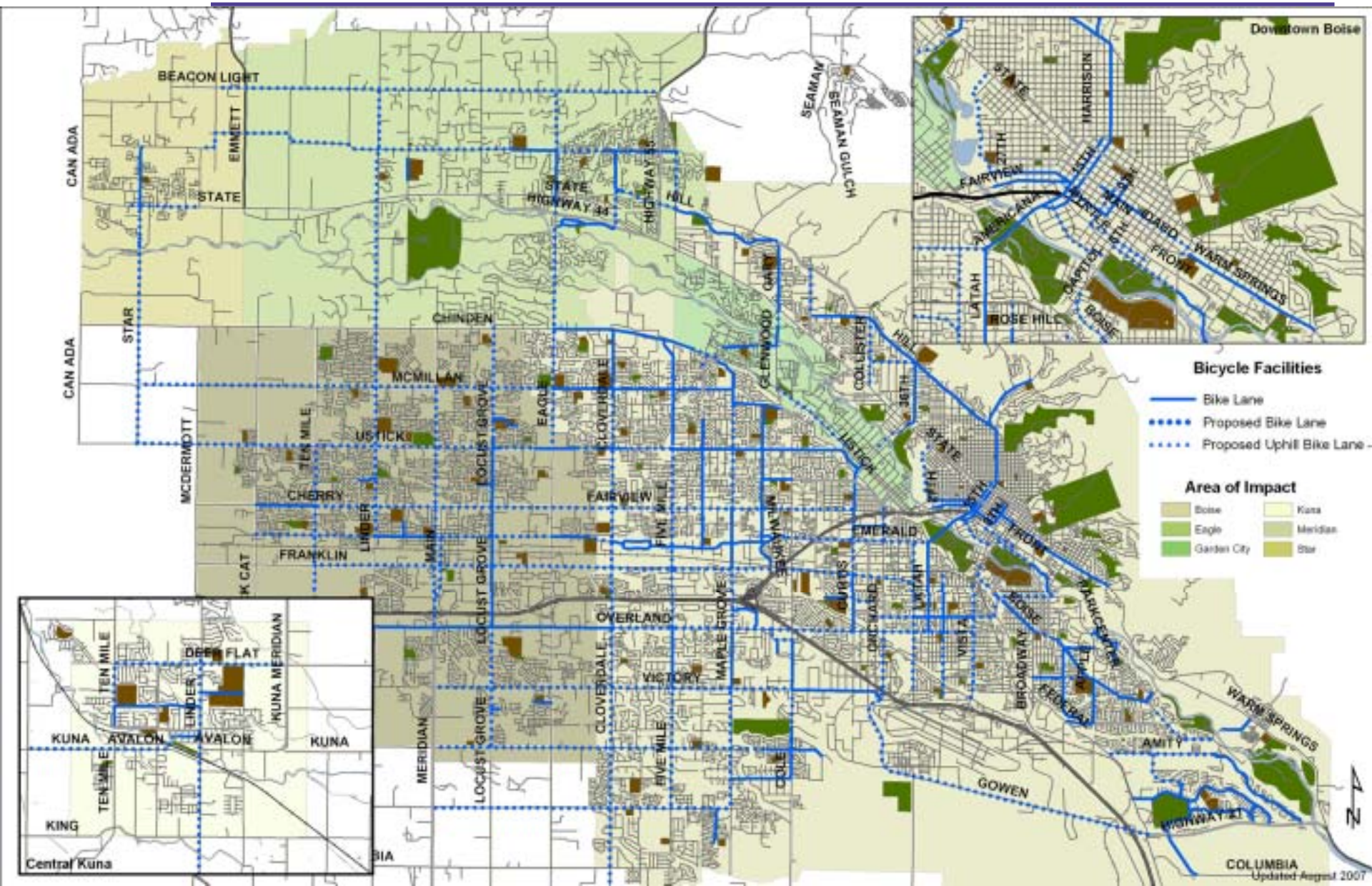
Bikeway Analysis:
Existing Lane Widths - Star



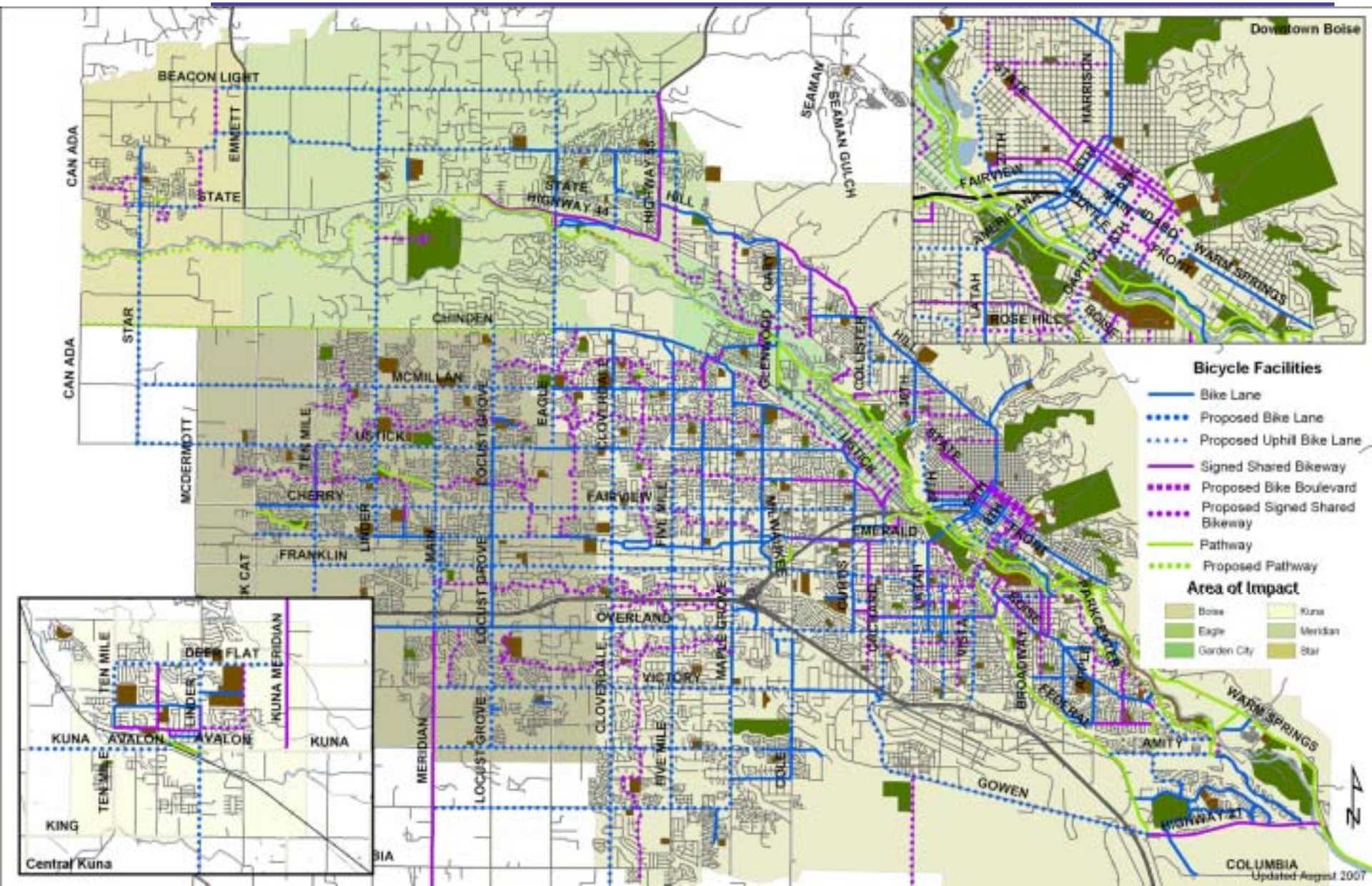
Conceptual Signed Shared Bikeway Network



Conceptual Bike Lane Network



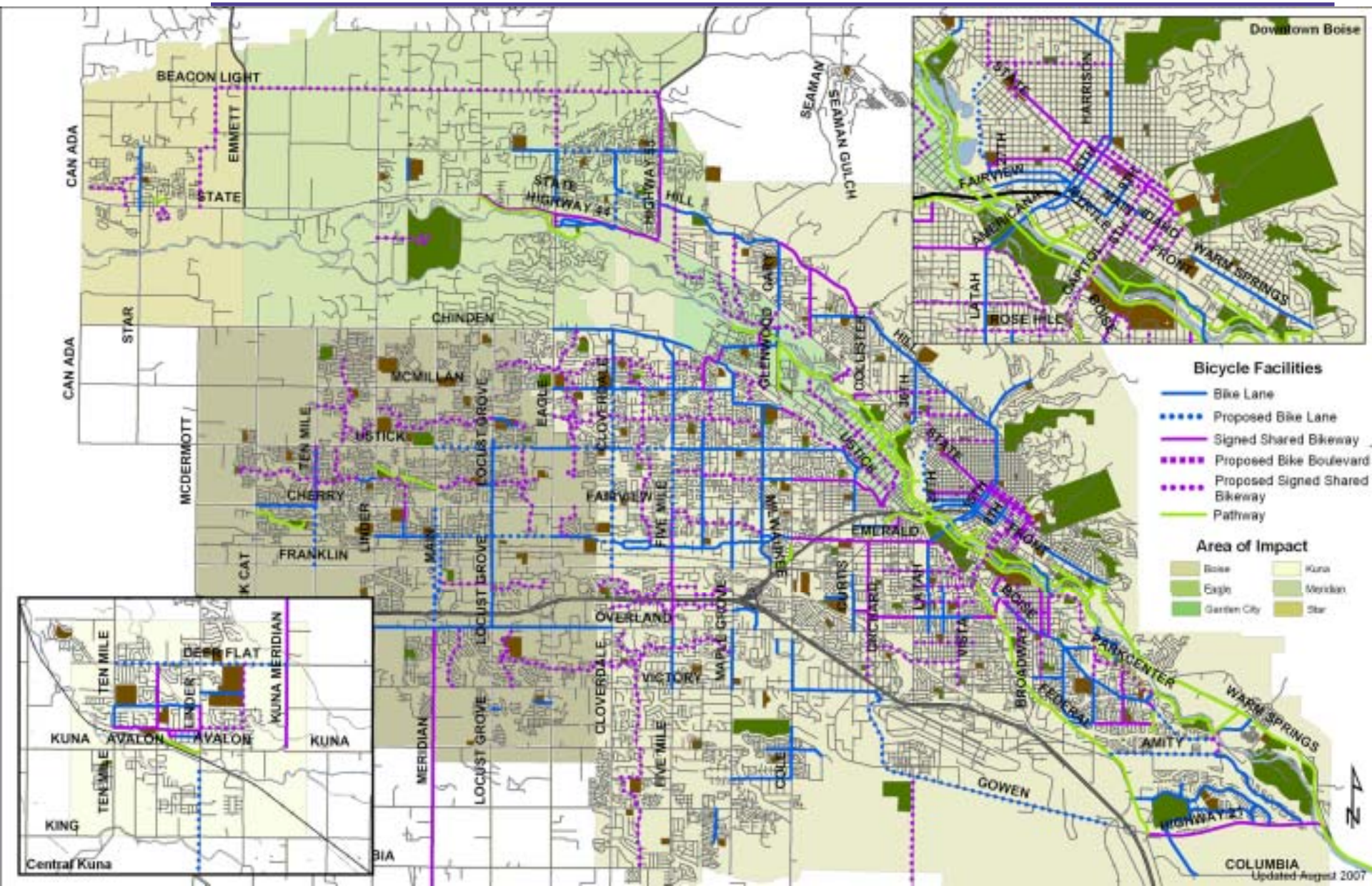
Long-Term Conceptual Bikeway Network



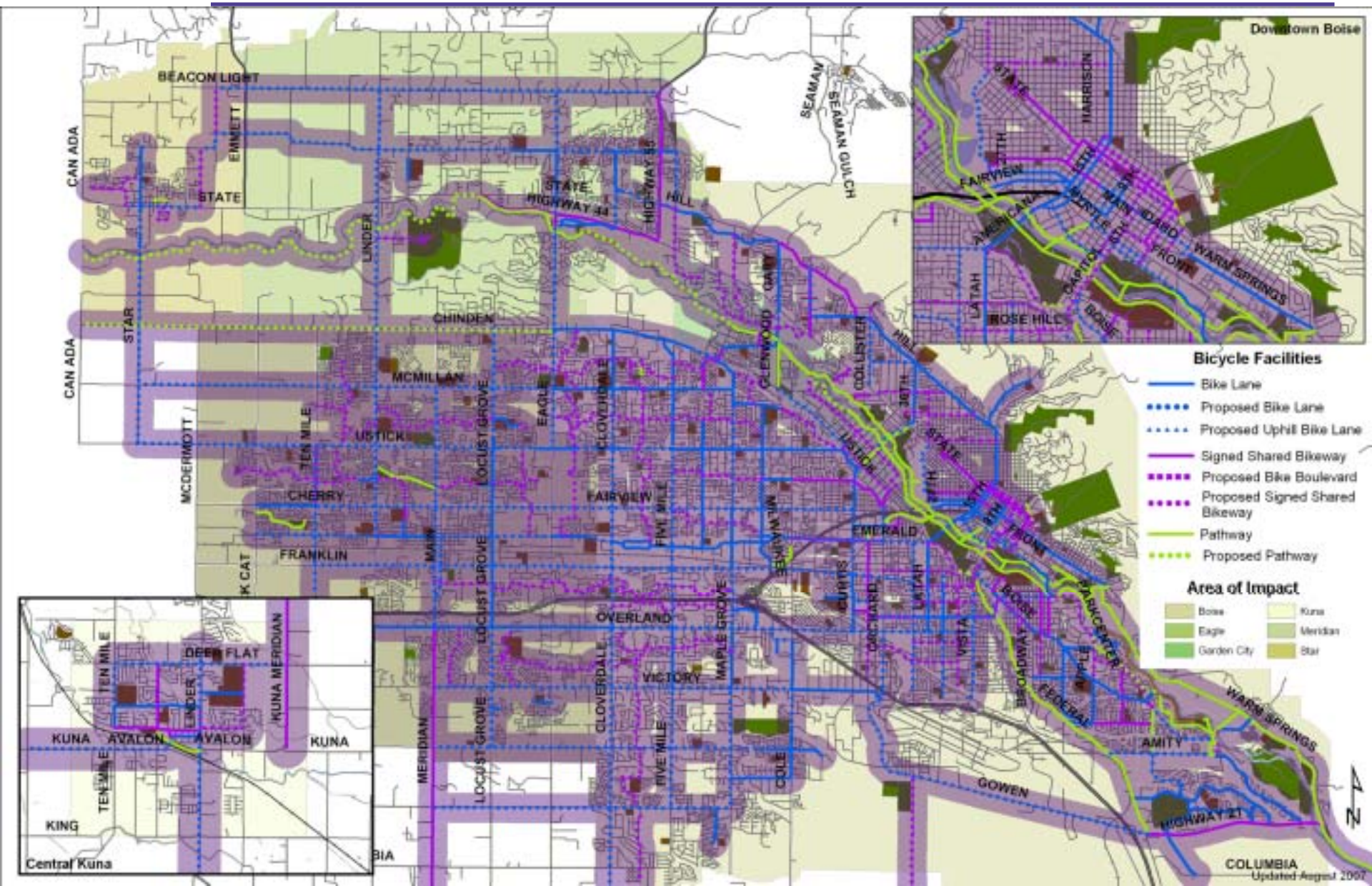
Conceptual Bikeway Network

- Short-term Improvements
  - Narrowing of travel lanes where adequate space exists to accommodate bicycle lanes
  - Shoulder widening locations
  - Signed Shared Bikeways
  - Bicycle Boulevards
  - Roadway crossing enhancements
  - Planned CIP / 5-Year Work Plan Improvements

Short-Term Conceptual Bikeway Network



Bikeway Analysis:
Conceptual Network Coverage



Design Guidelines

- Policies
- Bicycle lane accommodation
- Signed Shared Bikeway / Bicycle Boulevard design
- Intersection alignments
- Additional treatments
  - Bike box
  - Cycle track
  - Contra-flow lane

Design Guidelines: Policies

- A Complete Streets Approach
  - Guidance - *Accommodating Bicycle and Pedestrian Travel: A Recommended Approach;* A US DOT Policy Statement Integrating Bicycling and Walking Into Transportation Infrastructure

Design Guidelines: Policies

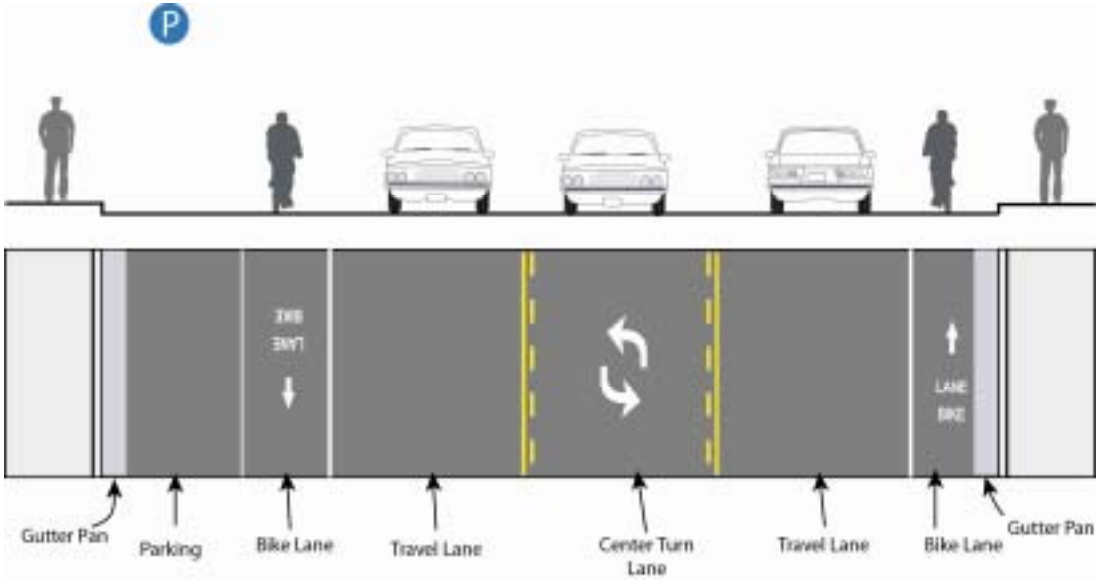
- A Complete Streets Policy:
  - Ensures that the entire right-of-way is routinely designed and operated to enable safe access along and across the street for all users.
  - Specifies that 'all users' includes bicyclists, pedestrians, transit riders, motorists of all ages and abilities.
  - Aims to create a comprehensive, integrated, connected network for all travel modes.
  - Recognizes the need for flexibility: all streets are different and user needs will be balanced. Complete street appropriate to local context and needs.
  - Applies to both new and retrofit projects
  - Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
  - Land uses and urban design standards that support these transportation investments

Design Guidelines: Bicycle accommodation

- ACHD Decision Making Process
  - Identify roadway segment
  - Analyze roadway segment characteristics
    - Existing elements (parking, curb-to-curb width, lane width, etc)
    - Roadway capacity
    - Traffic volumes & speed
    - On-street parking demand / turnover
    - Heavy vehicle traffic
  - Cross-section alternatives
  - Cross-section selection

Design Guidelines: Bicycle accommodation

- Roadway Elements



Right-of-Way Roadway Elements

	Gutter Pan	On-Street Parking	Bike Lane	Travel Lane	Turn Lane
Minimum	1.5'	7'	4'	10'	10'
Maximum	1.5'	9'	6'	14'	12'
Recommended	1.5'	8'	5' / 6'	11' / 12'	11' / 12'

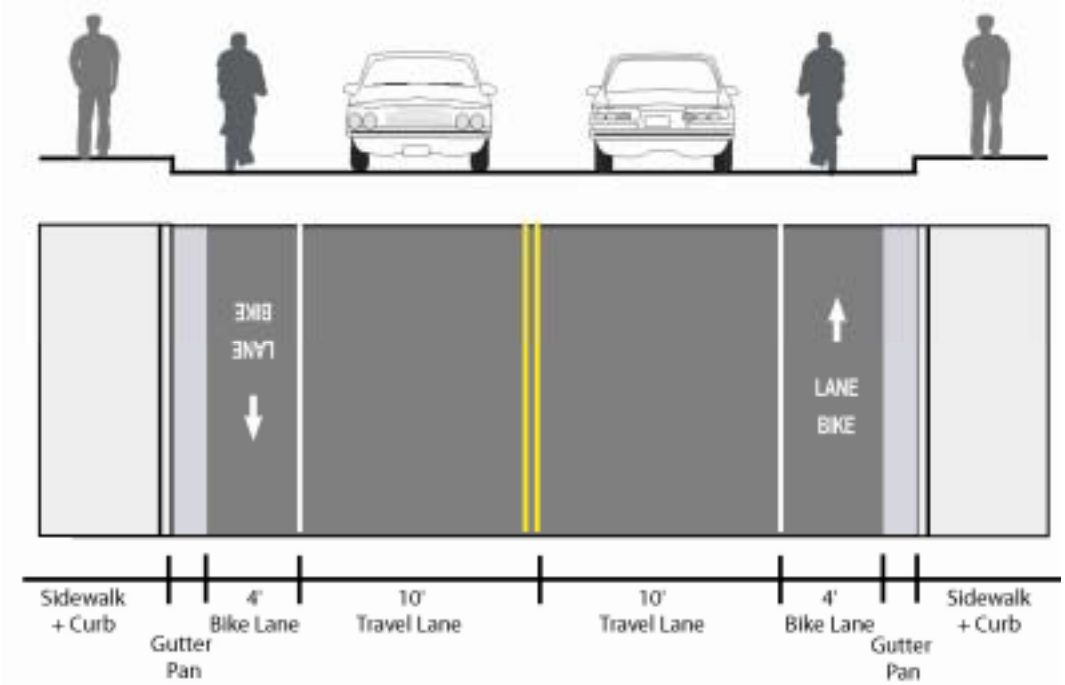
Design Guidelines: Bicycle accommodation

- Roadway Elements Decision Flow

1. Parking	→	8'
2. Bike Lane	→	5' (2 & 3 travel lanes)
	→	6' (4 & 5 travel lanes)
3. Travel Lanes	→	12' (Outside lanes first)

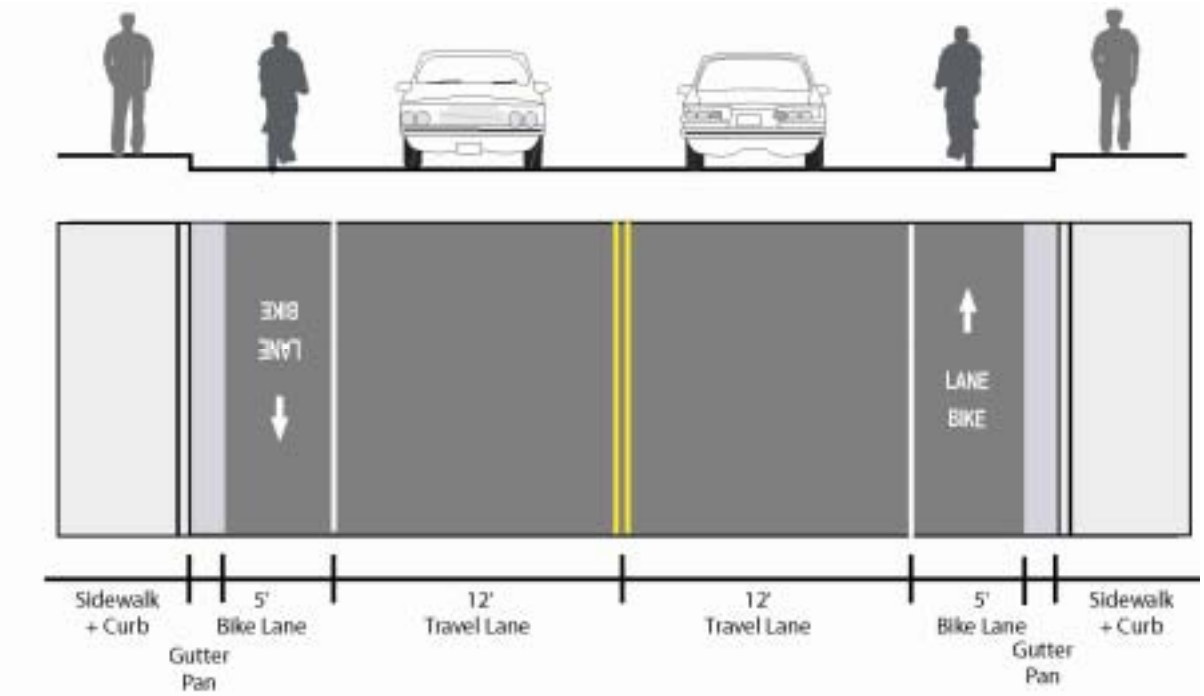
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: No Parking
  - Constrained = 31’



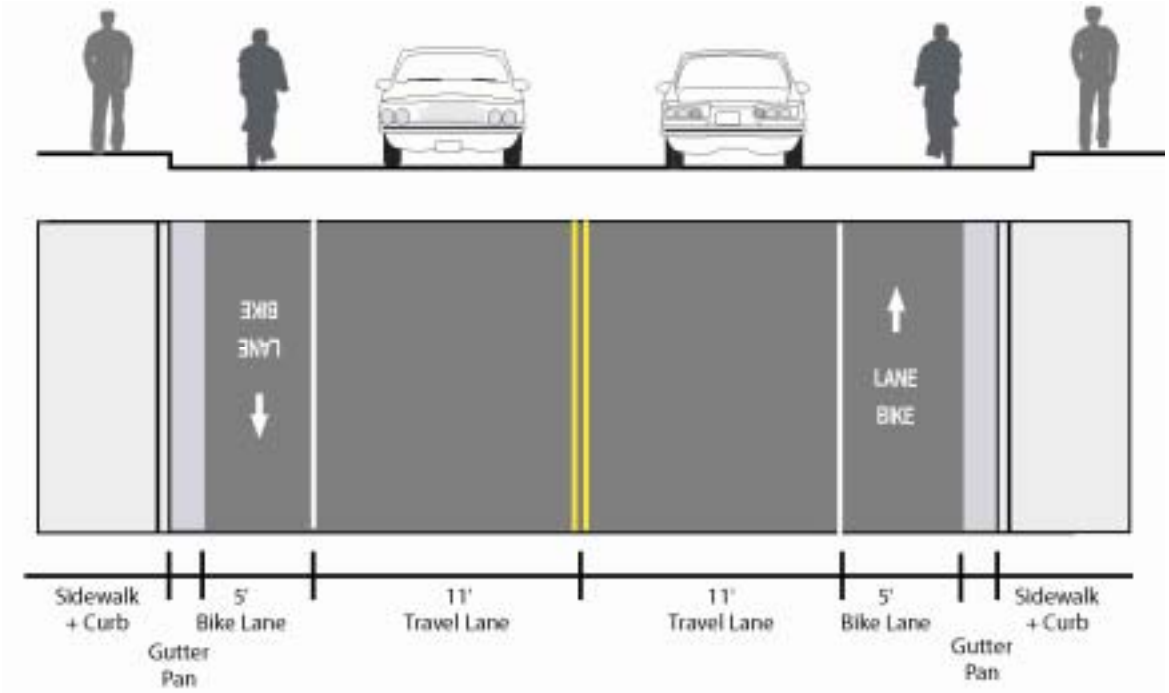
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: No Parking
  - Maximum = 37’



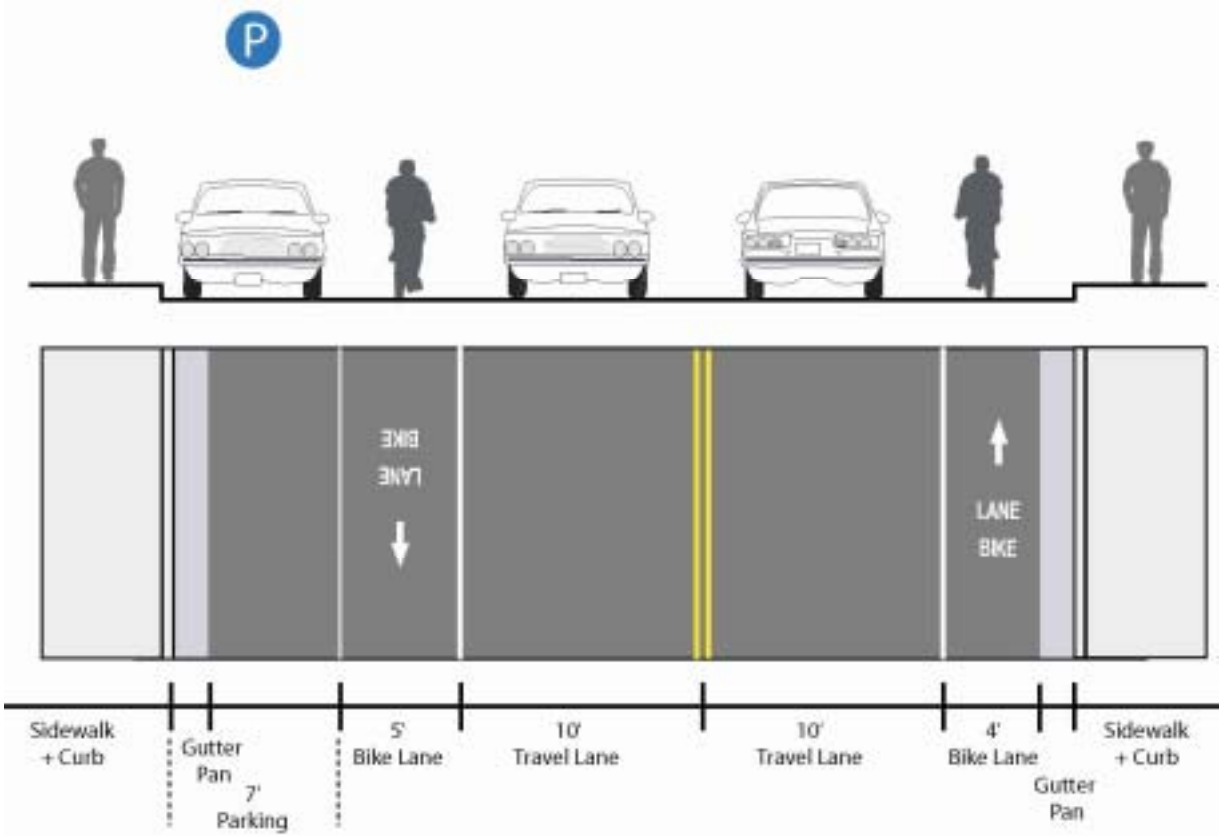
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: No Parking
  - Recommended = 35’



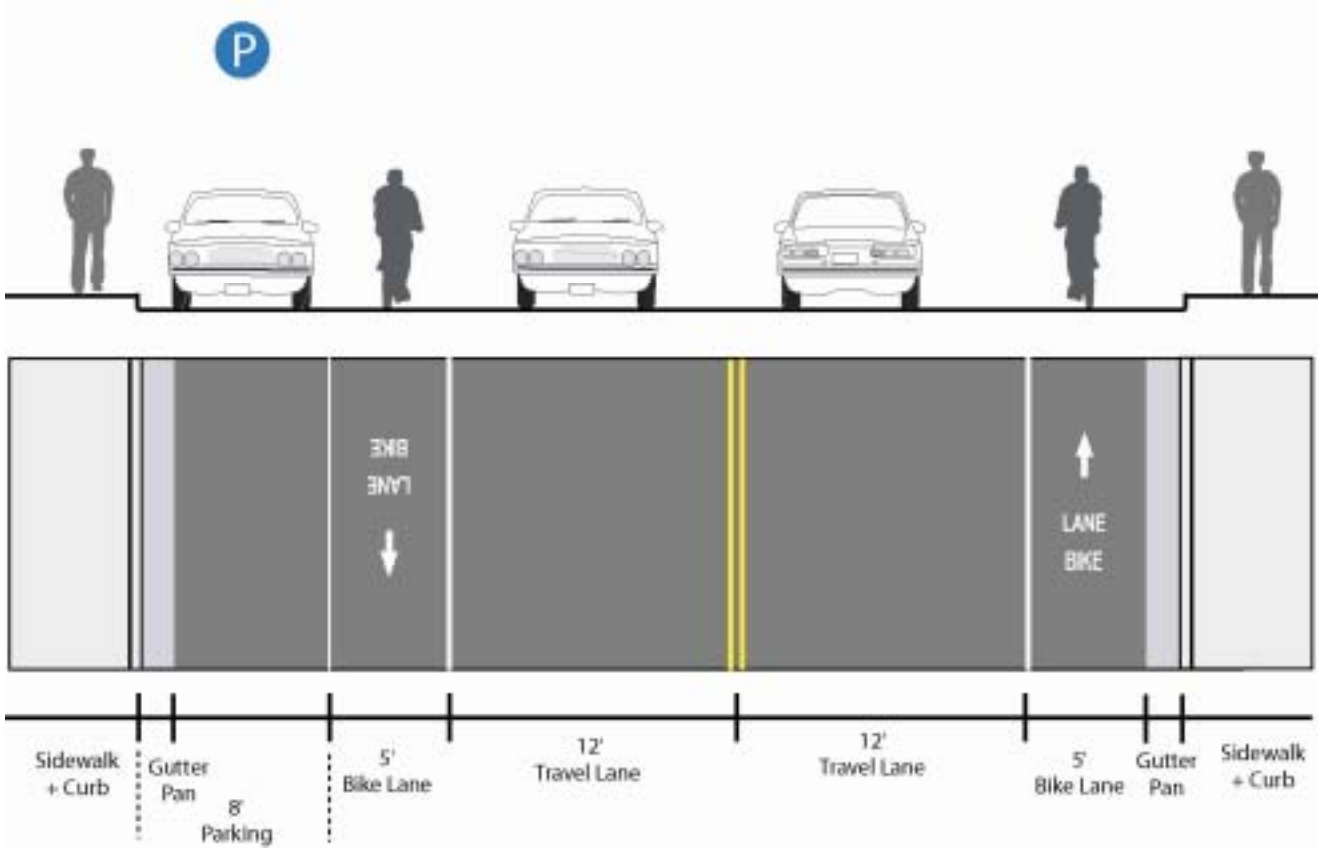
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: Parking One Side
  - Constrained = 37.5’



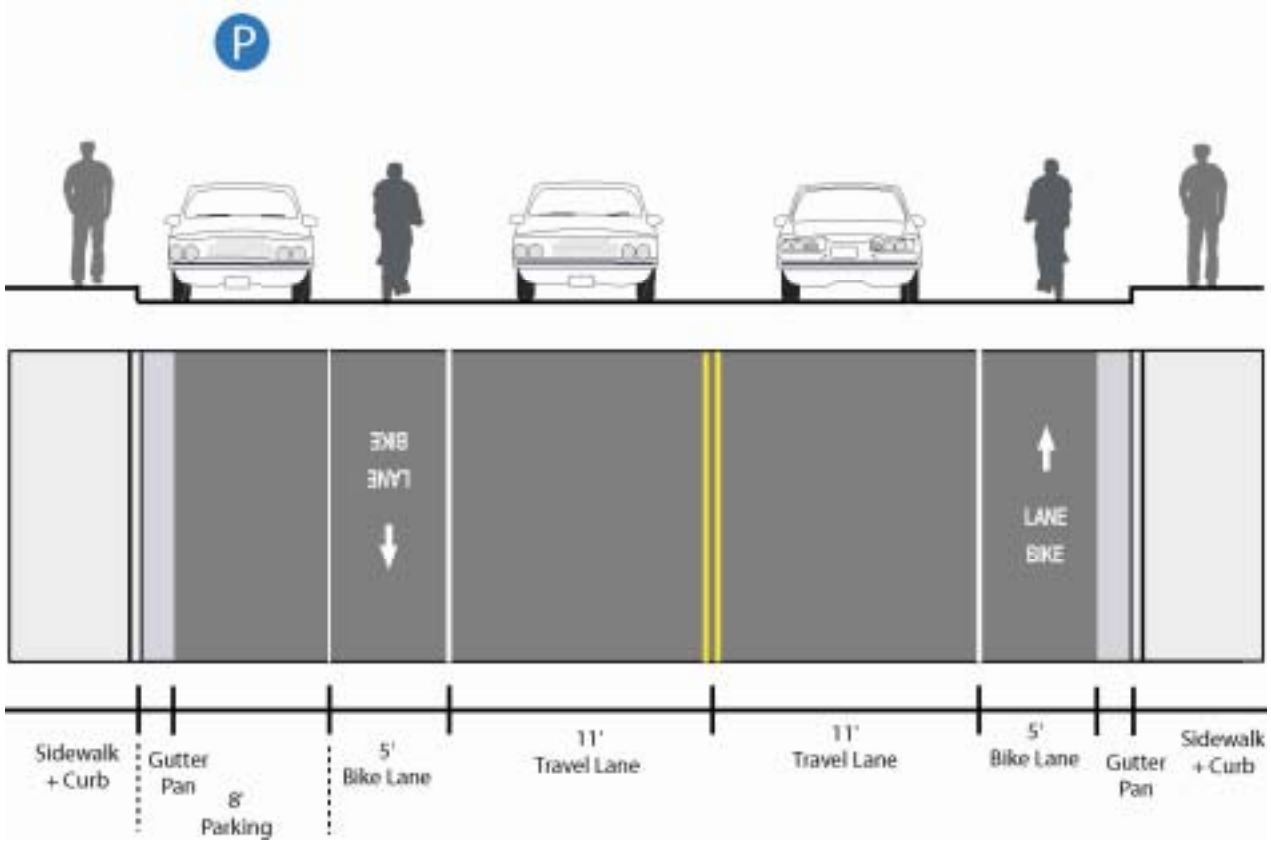
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: Parking One Side
  - Maximum = 43.5’



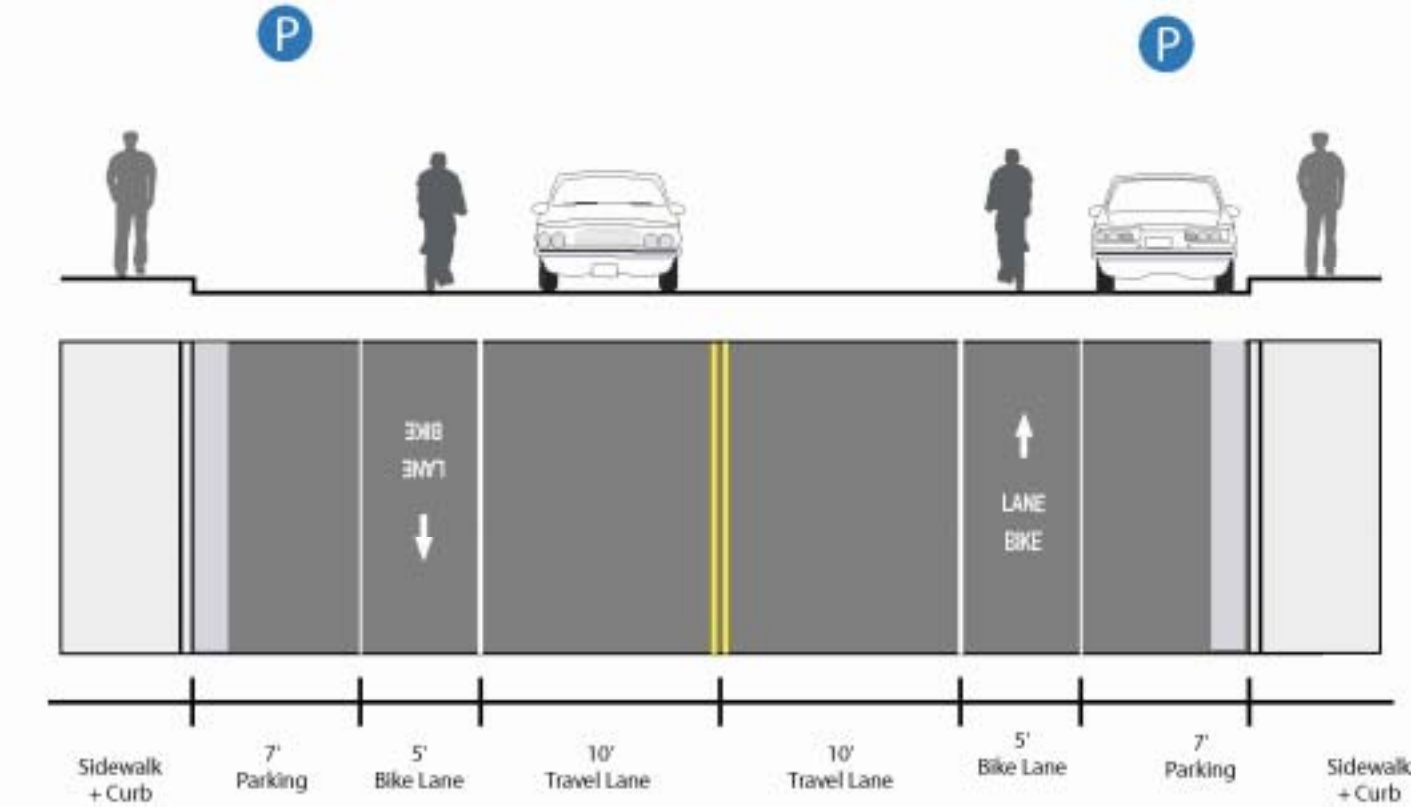
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: Parking One Side
  - Recommended = 41.5’



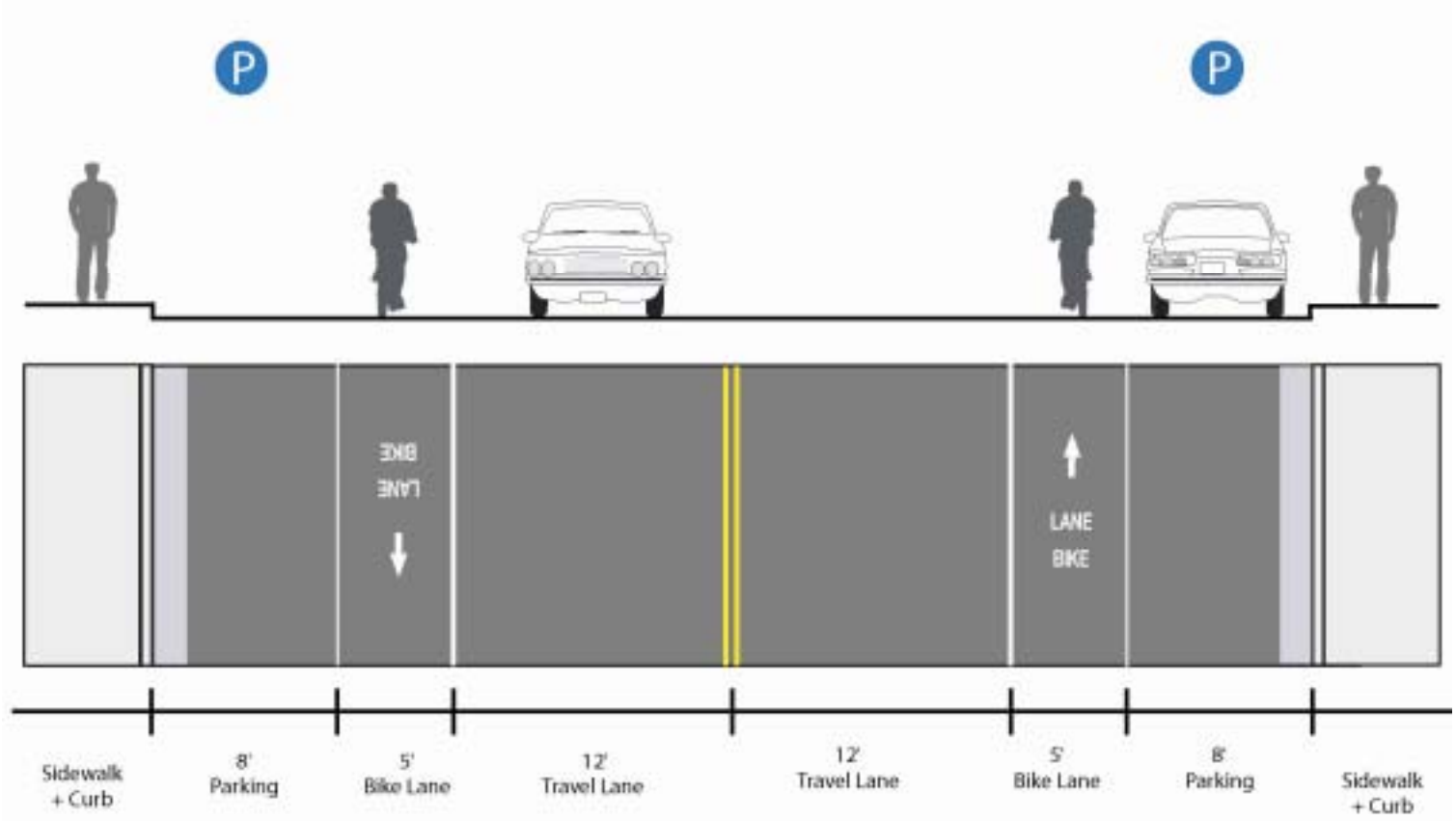
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: Parking Both Sides
  - Constrained = 44’



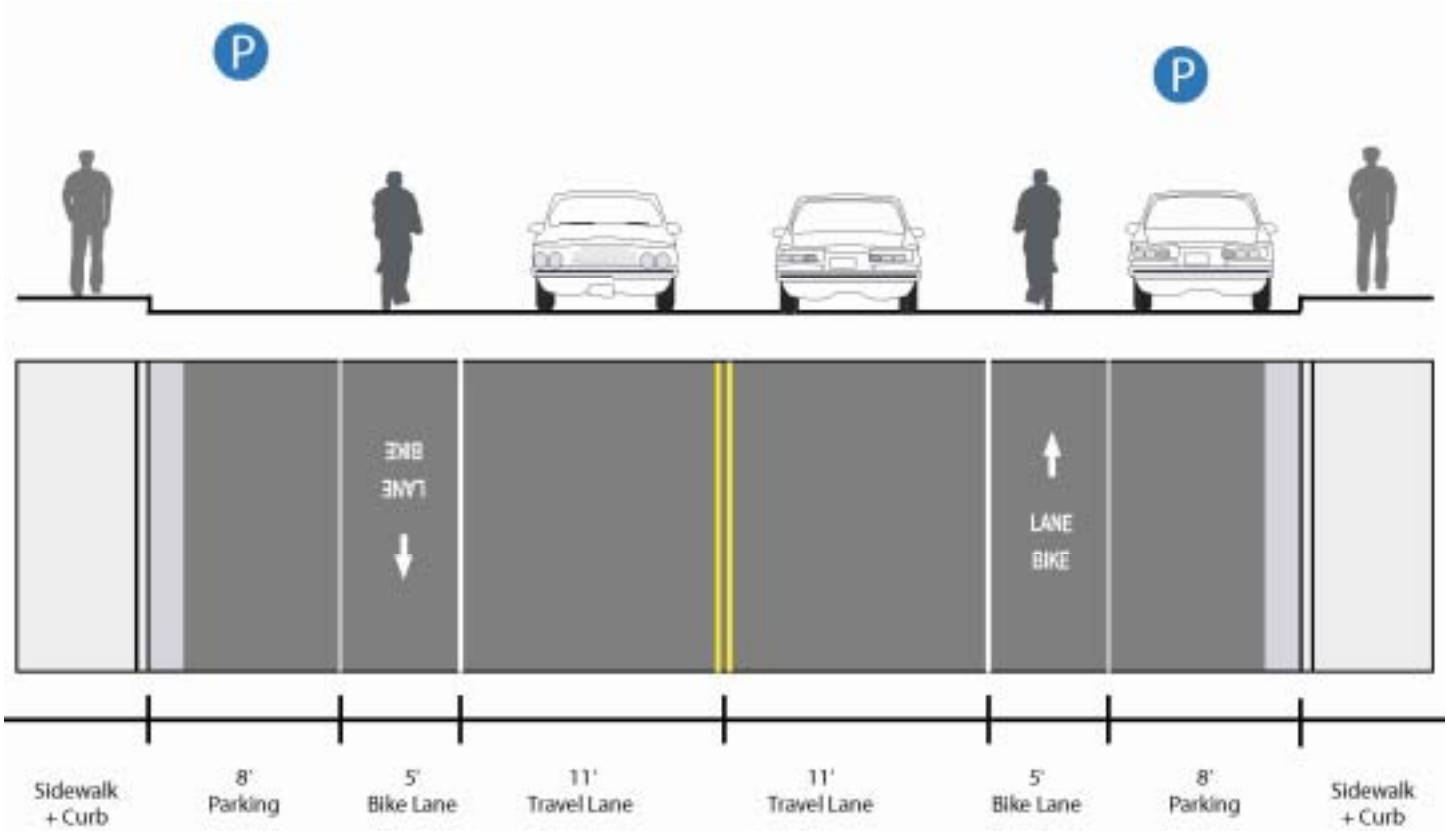
Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: Parking Both Sides
  - Maximum = 50’



Design Guidelines: Bicycle lane accommodation

- 2-lane cross-section: Parking Both Sides
  - Recommended = 48’



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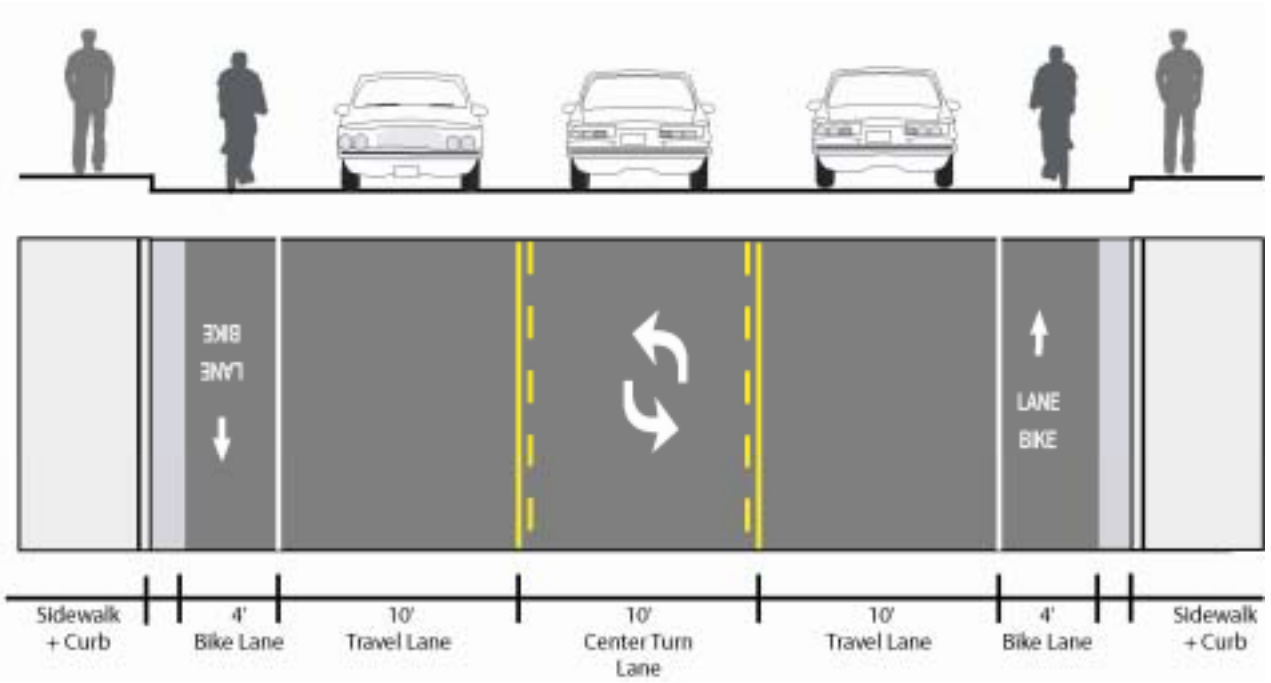
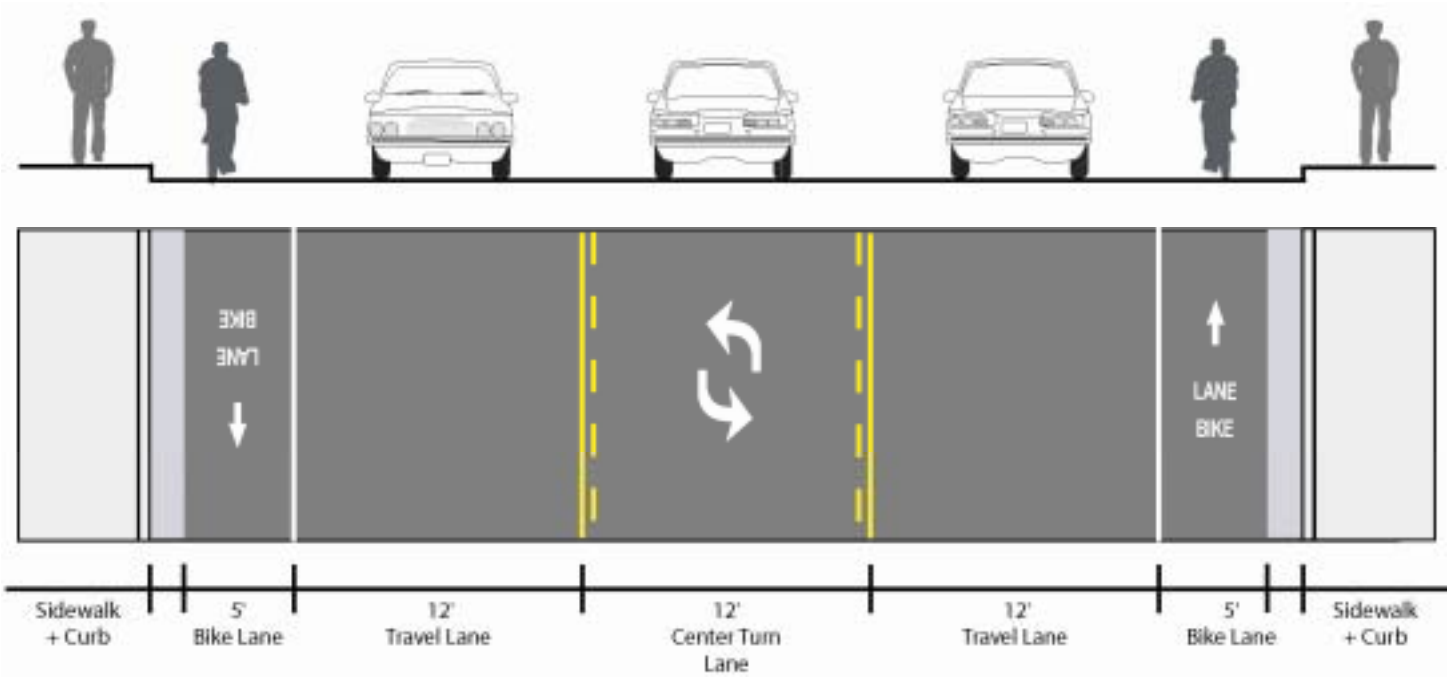
Design Guidelines: Bicycle lane accommodation

- 3-lane cross-section: No Parking
  - Constrained = 41’



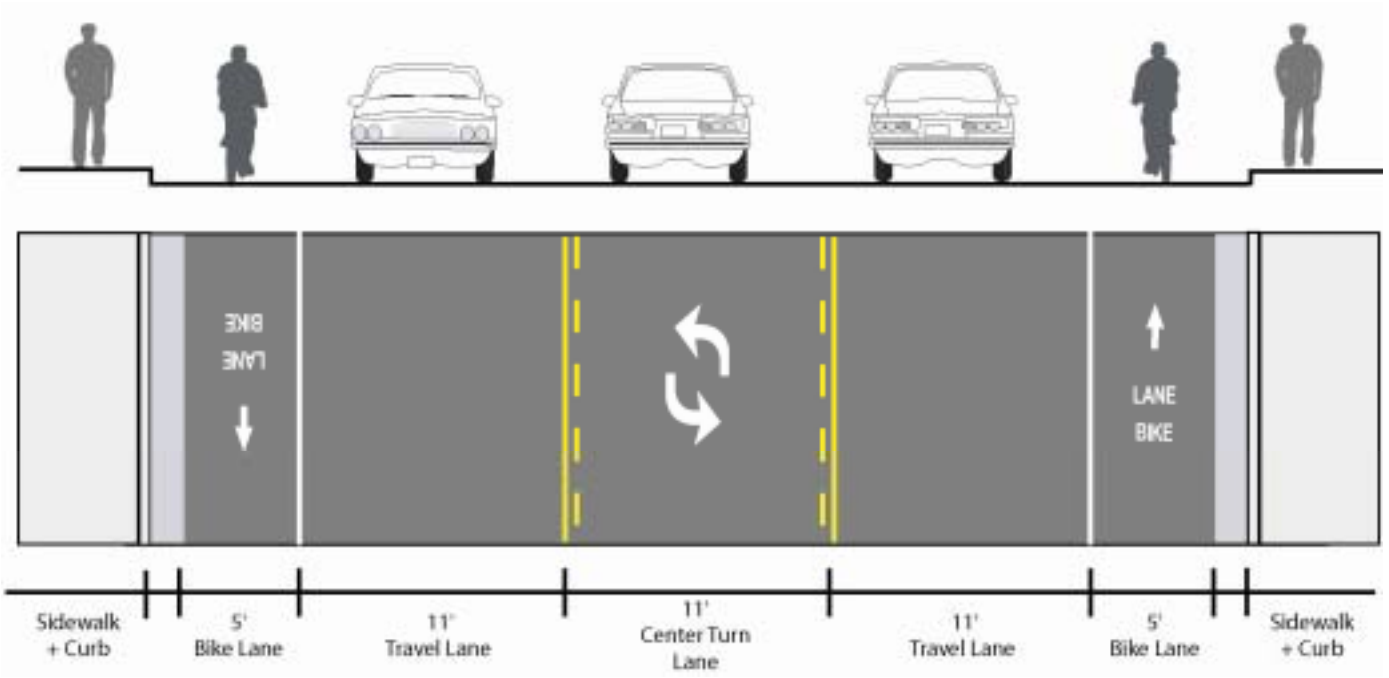
Design Guidelines: Bicycle lane accommodation

- 3-lane cross-section: No Parking
  - Maximum = 49’



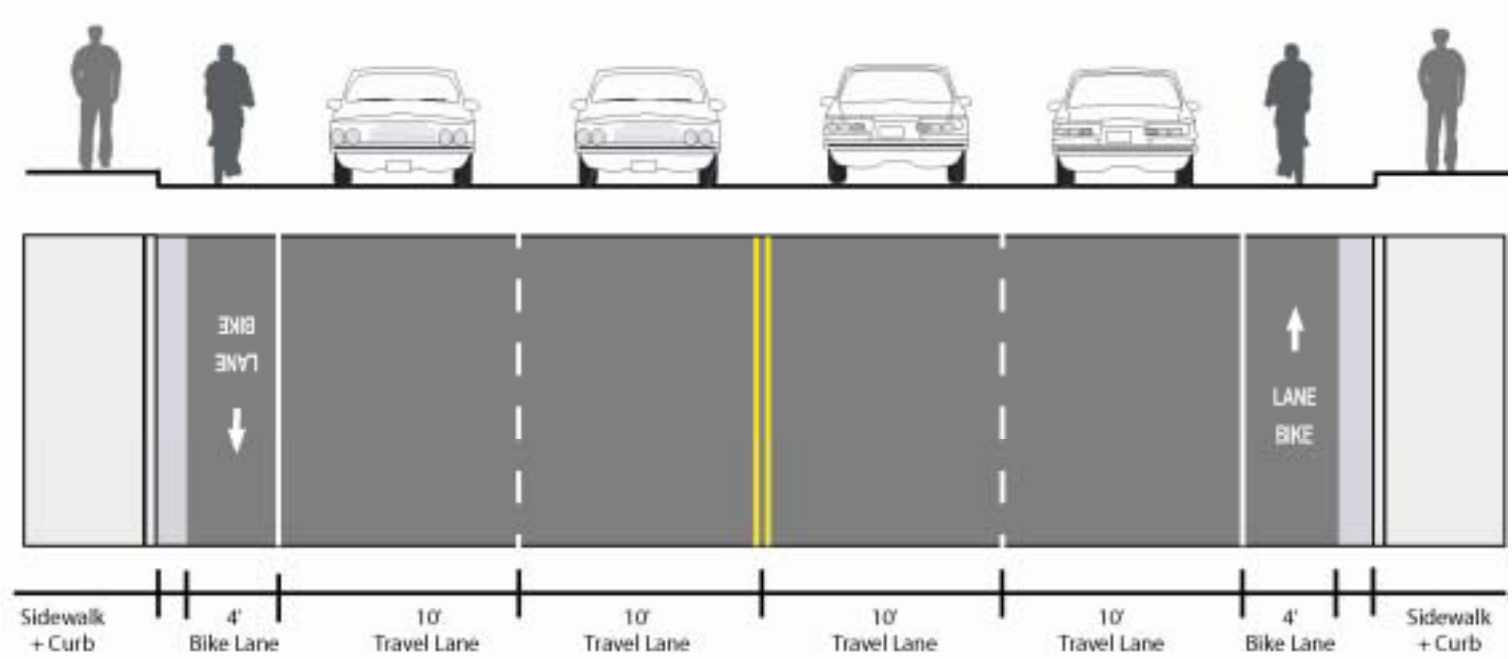
Design Guidelines: Bicycle lane accommodation

- 3-lane cross-section: No Parking
  - Recommended = 46’



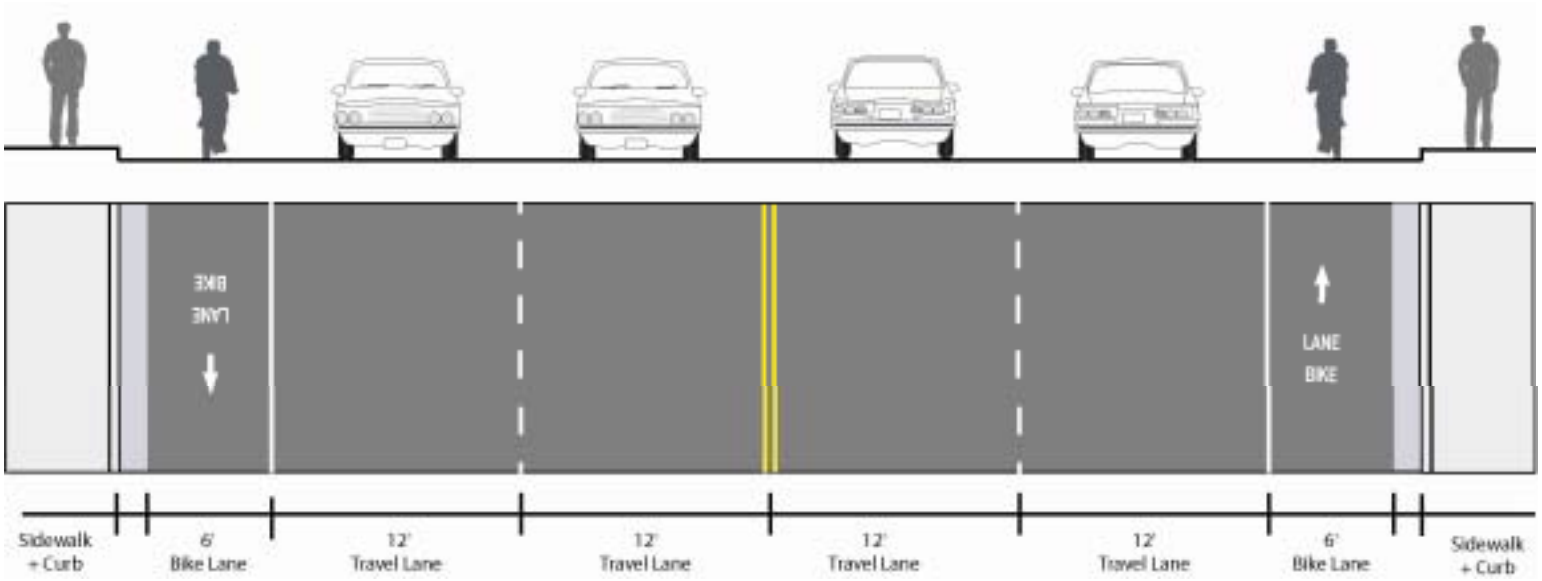
Design Guidelines: Bicycle lane accommodation

- 4-lane cross-section: No Parking
  - Constrained = 51’



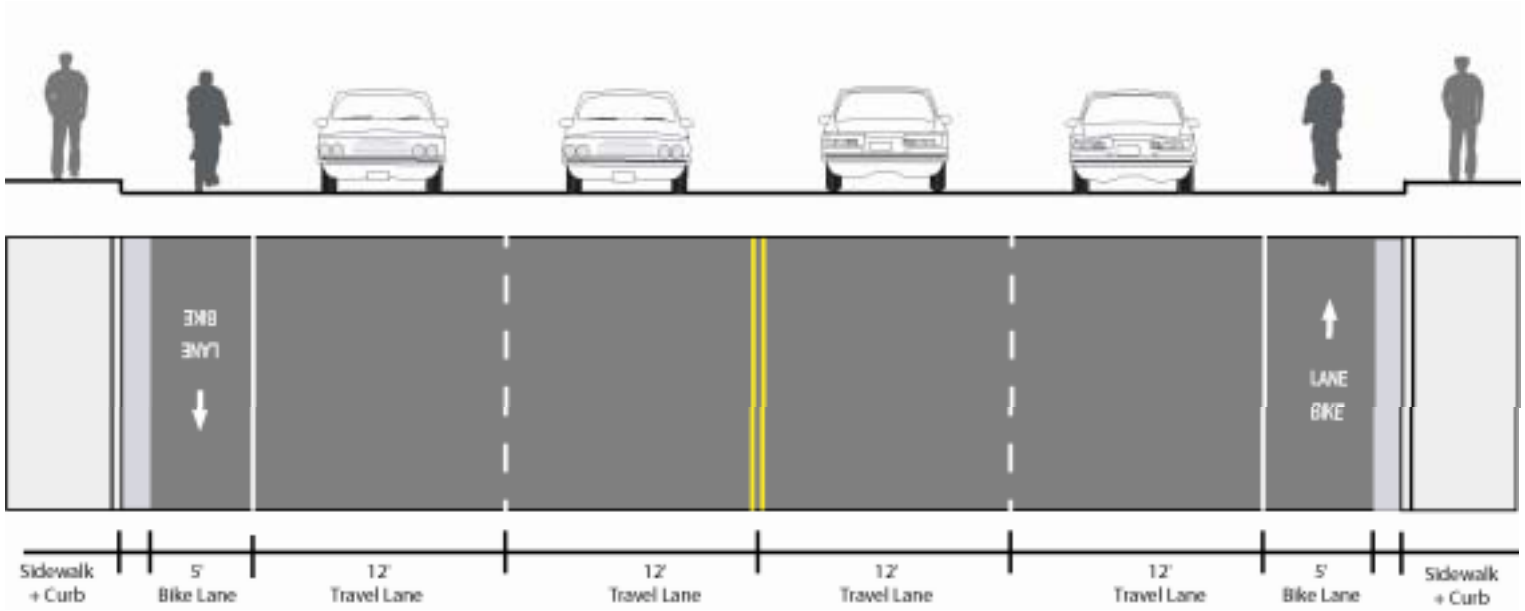
Design Guidelines: Bicycle lane accommodation

- 4-lane cross-section: No Parking
  - Maximum = 63’



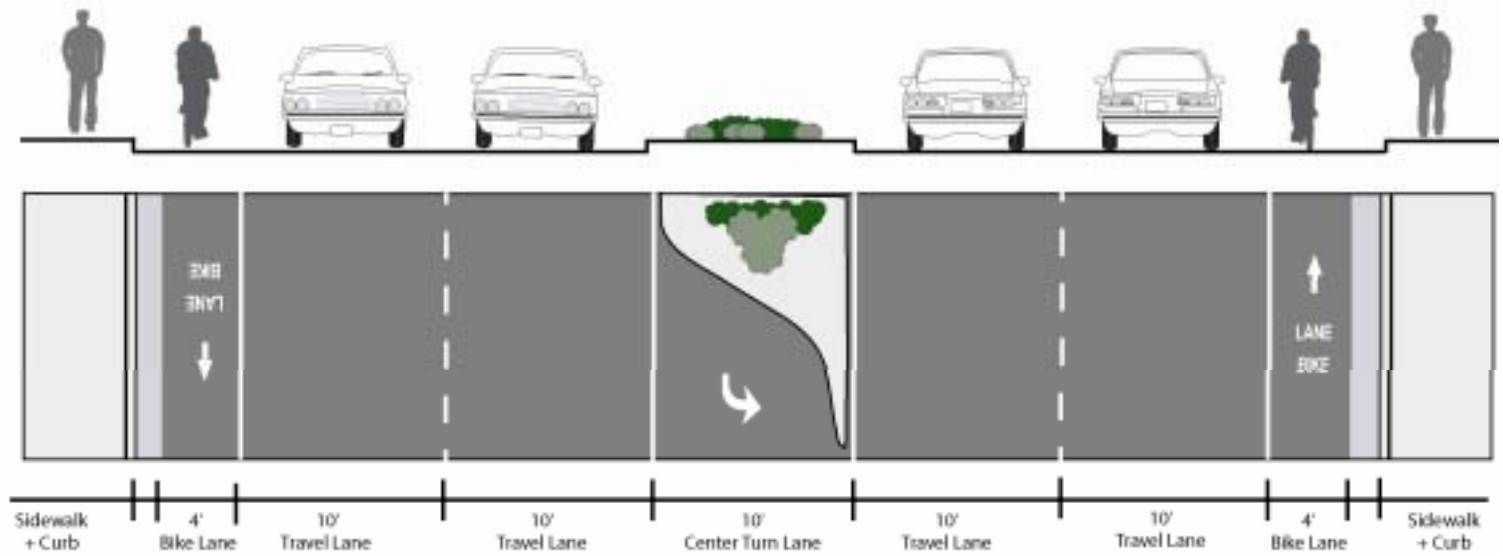
Design Guidelines: Bicycle lane accommodation

- 4-lane cross-section: No Parking
  - Recommended = 61’



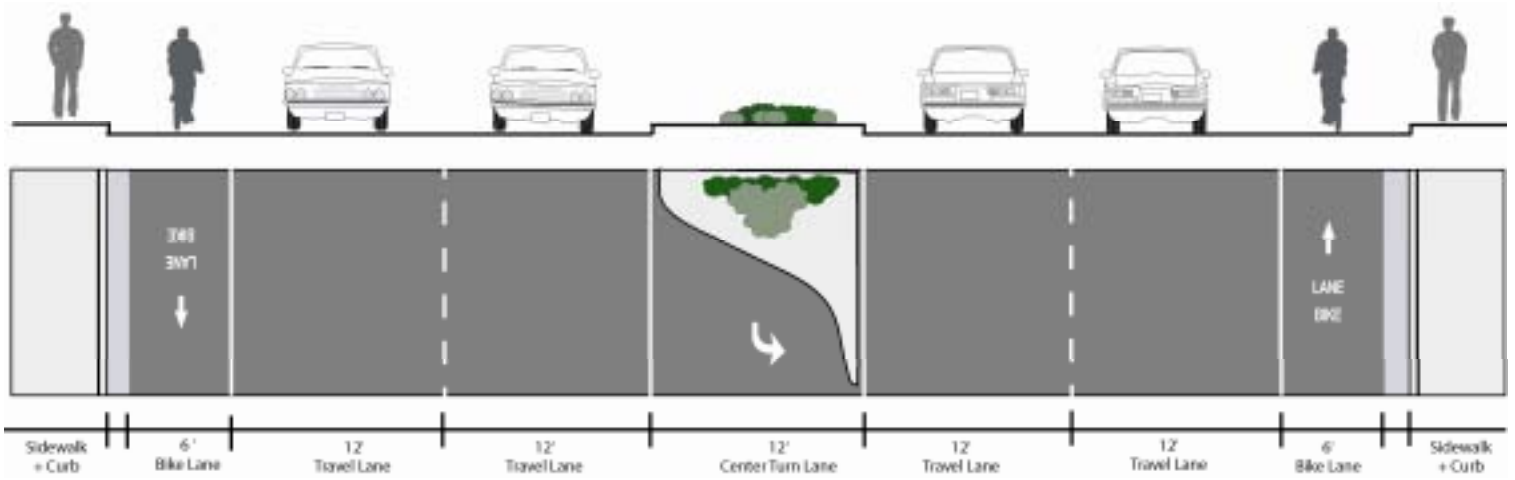
Design Guidelines: Bicycle lane accommodation

- 5-lane cross-section: No Parking
  - Constrained = 61’



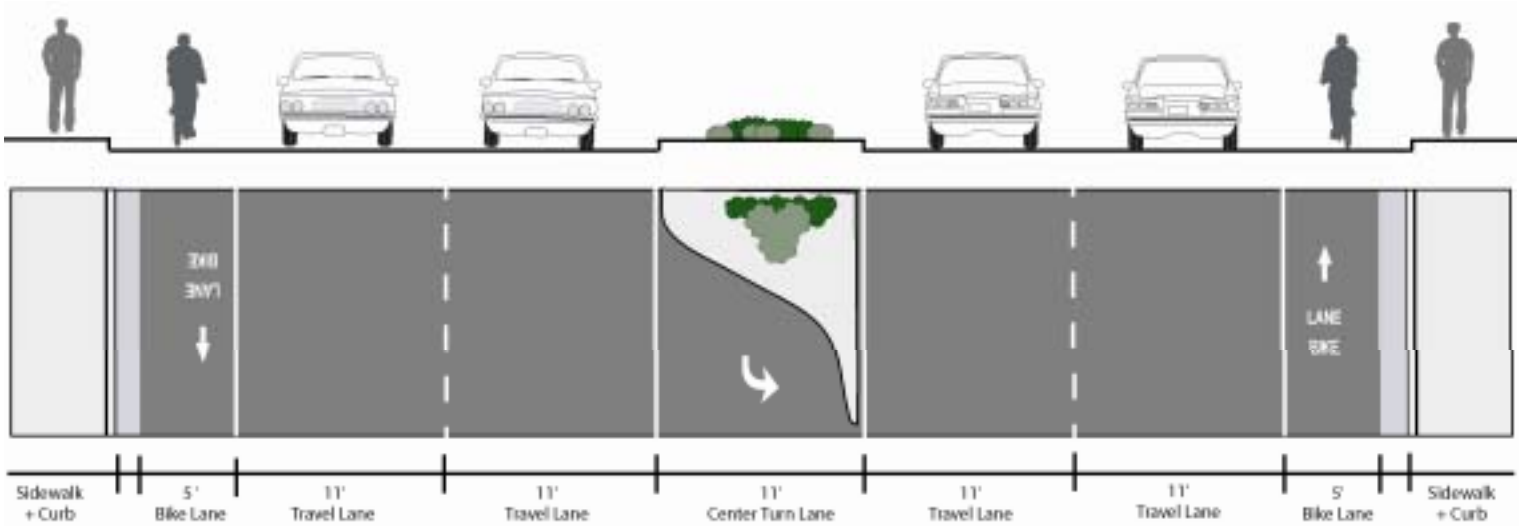
Design Guidelines: Bicycle lane accommodation

- 5-lane cross-section: No Parking
  - Maximum = 75’



Design Guidelines: Bicycle lane accommodation

- 5-lane cross-section: No Parking
  - Recommended = 68’



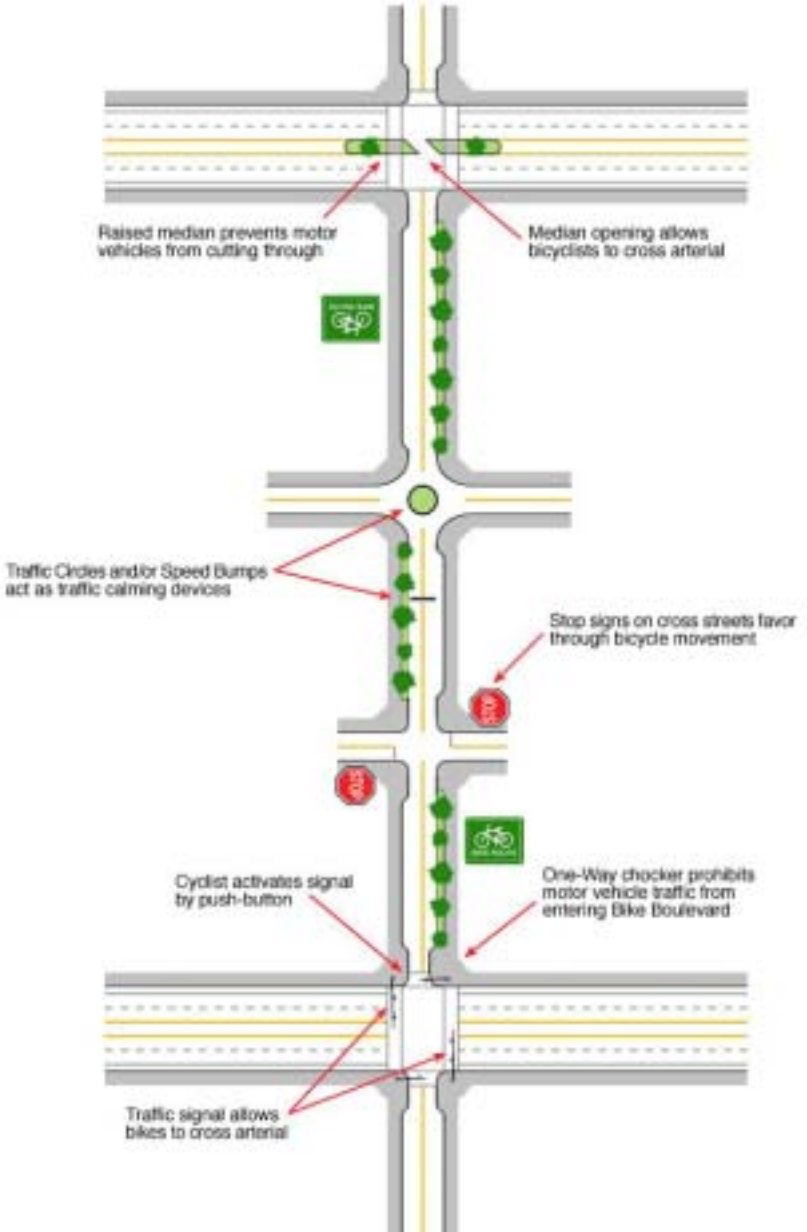
Design Guidelines: Bicycle Lane Summary

- 2-Lane Cross-Section Range: 31’ to 50’
- 3-Lane Cross-Section Range: 41’ to 49’
- 4-Lane Cross-Section Range: 51’ to 63’
- 5-Lane Cross-Section Range: 61’ to 75’

Design Guidelines:

Signed Shared Bikeways / Bicycle Boulevards

- Extent of treatment depends on roadway conditions, street and land use characteristics
- Developed on existing low-traffic streets
- Movement of bicycles is given higher priority
- Heighten visibility to motorists
- Intersection treatments to help bicyclists cross major streets



Design Guidelines:

Signed Shared Bikeways / Bicycle Boulevards

POTENTIAL APPLICATIONS

LEVEL 1
Signage

LEVEL 2
Route & Intersection
Pavement Markings

LEVEL 3
Intersection Treatments

LEVEL 4
Traffic Calming

LEVEL 5
Traffic Diversion

Signed Shared Bikeway

Intensity of Treatments (varies based on roadway conditions and area characteristics)

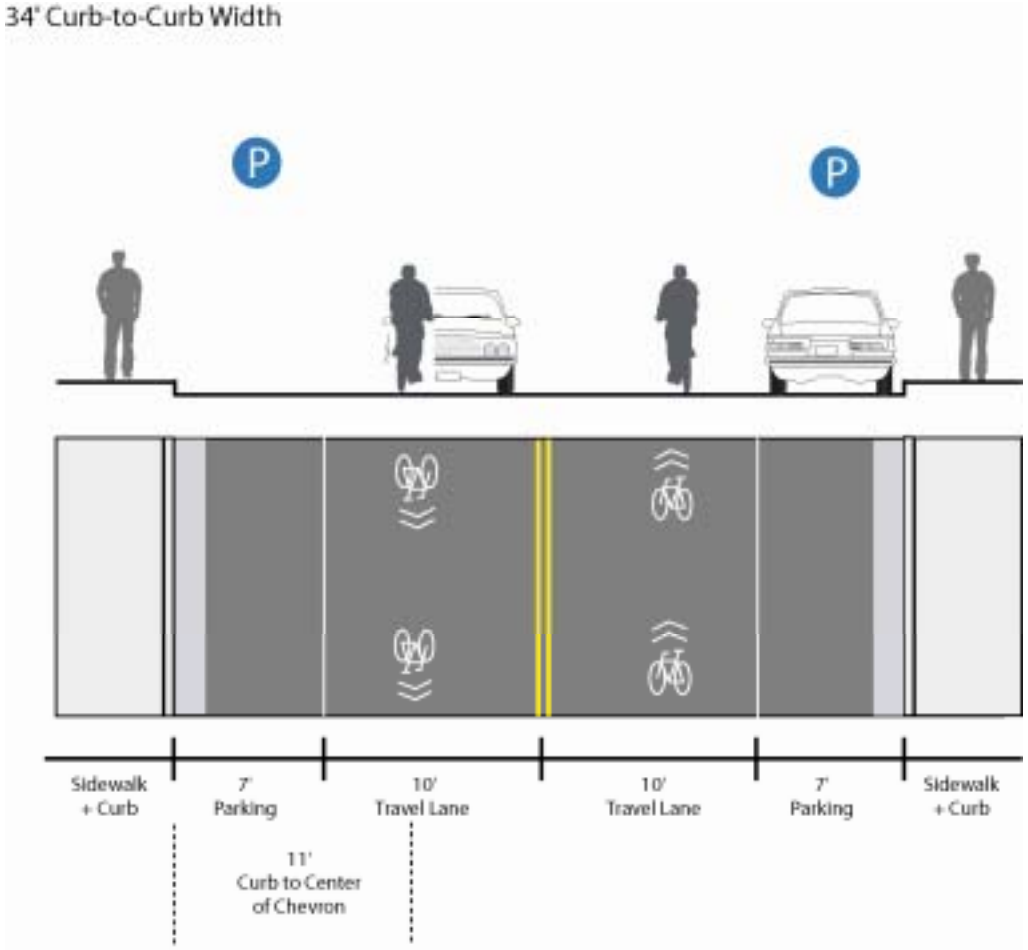
Bicycle Boulevard

Design Guidelines: Sharrows

- Reasons to Use:
  - Position bicyclists outside the “door zone” on signed shared bikeways with on-street parking
  - Provide an on-street indicator to all roadway users that bicyclists can be expected in constrained locations where bike lanes cannot be provided

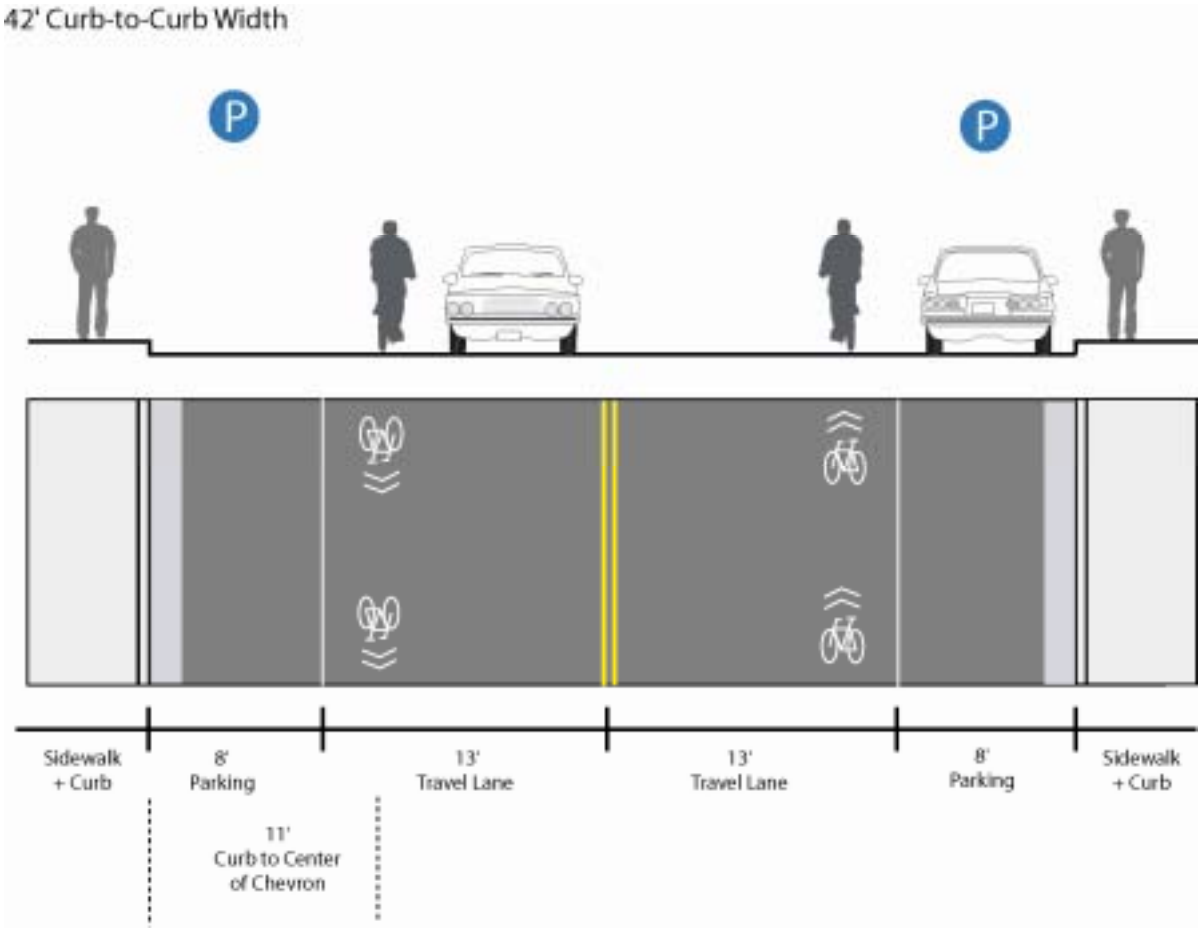
Design Guidelines: Sharrows

- 2-Lanes with Parking - Constrained



Design Guidelines: Sharrows

- 2-Lanes with Parking - Maximum



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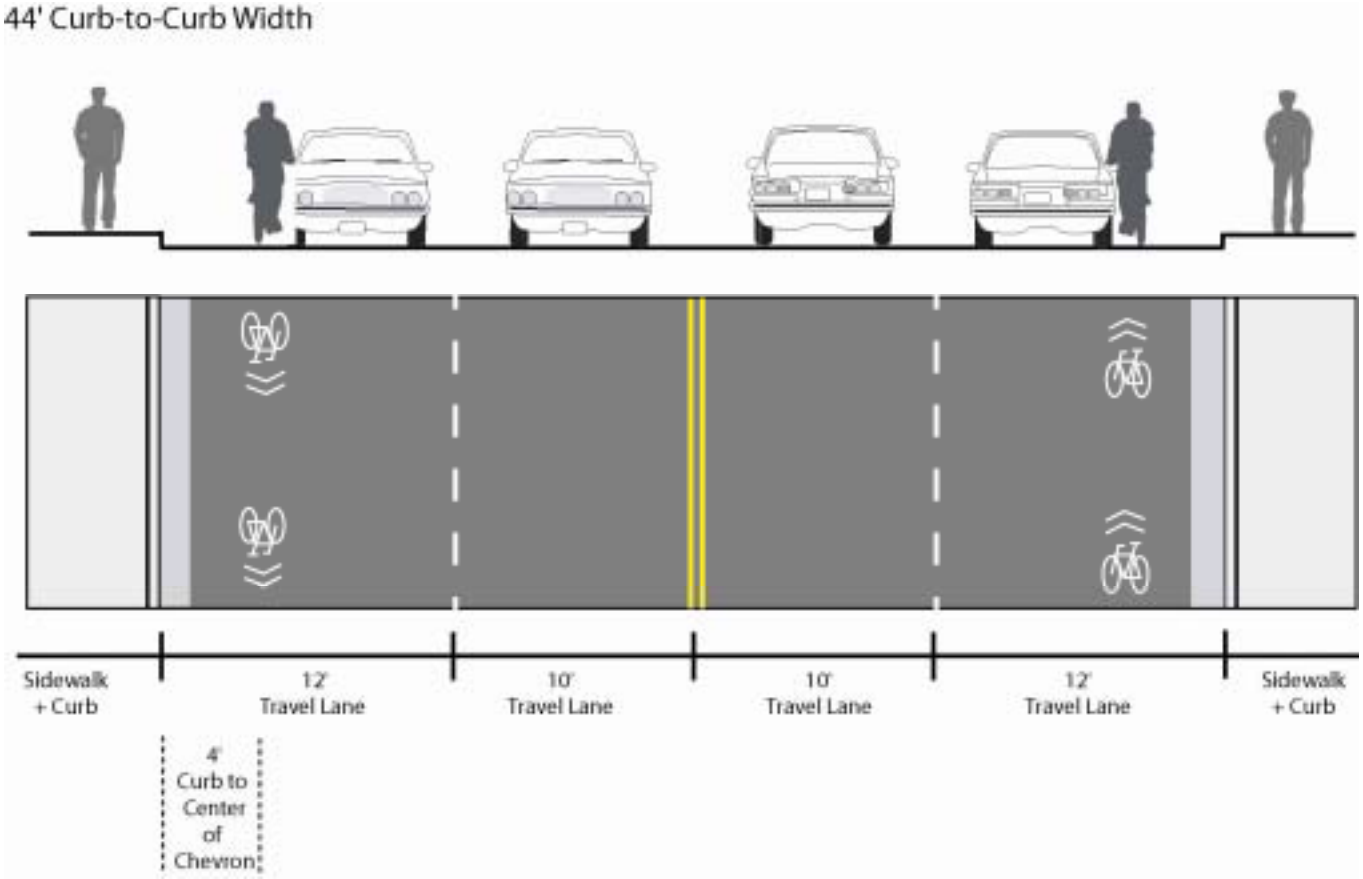
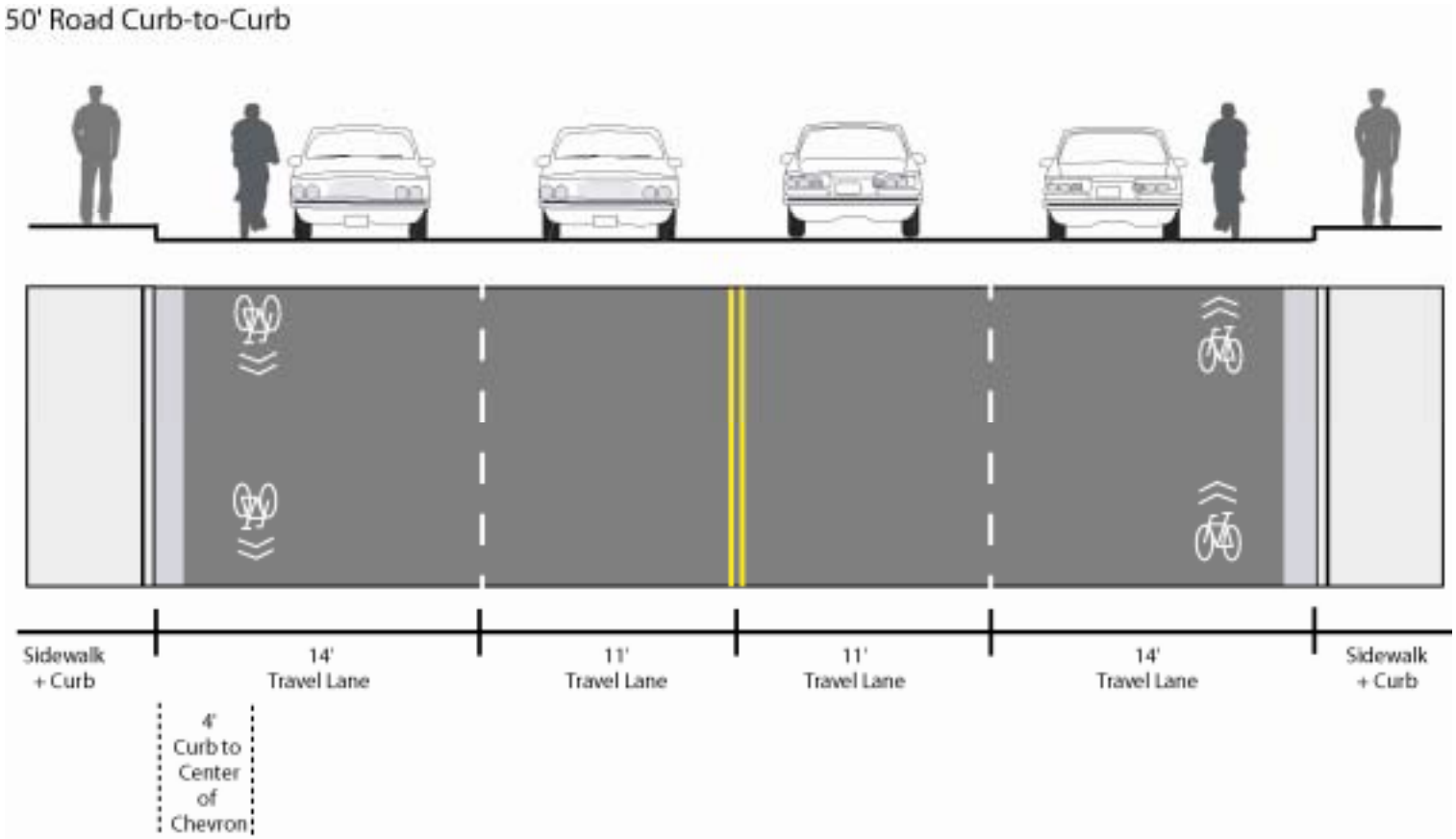
Design Guidelines: Sharrows

- 4-Lanes with Parking - Constrained

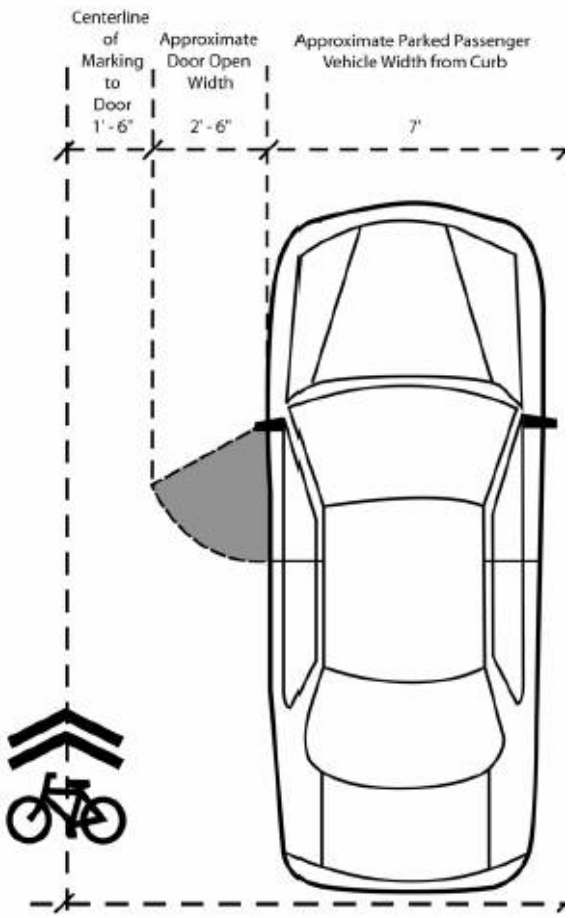


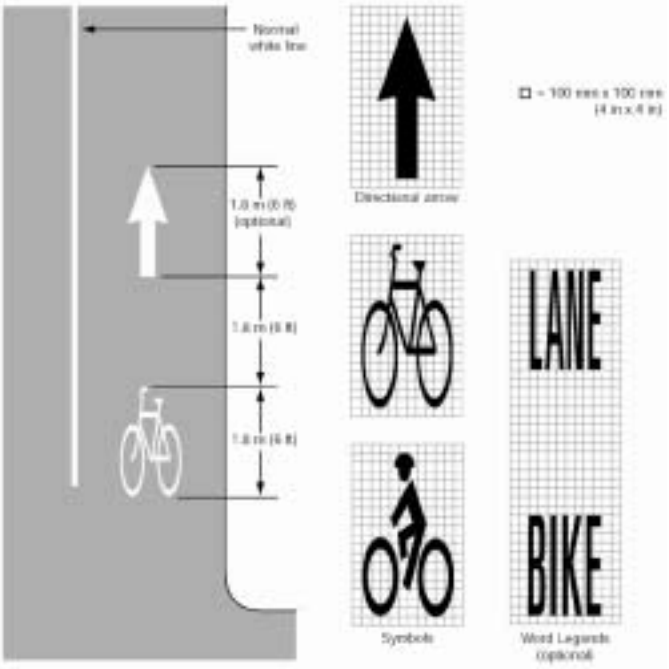
Design Guidelines: Sharrows

- 4-Lanes with Parking - Maximum



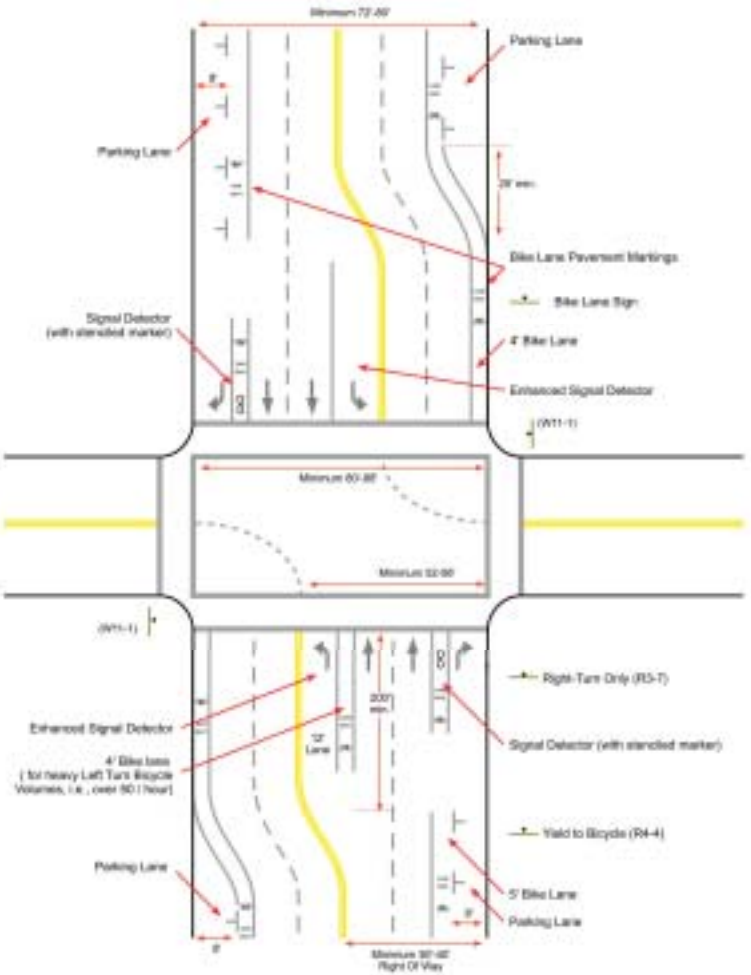
Design Guidelines: Stencils / Signage

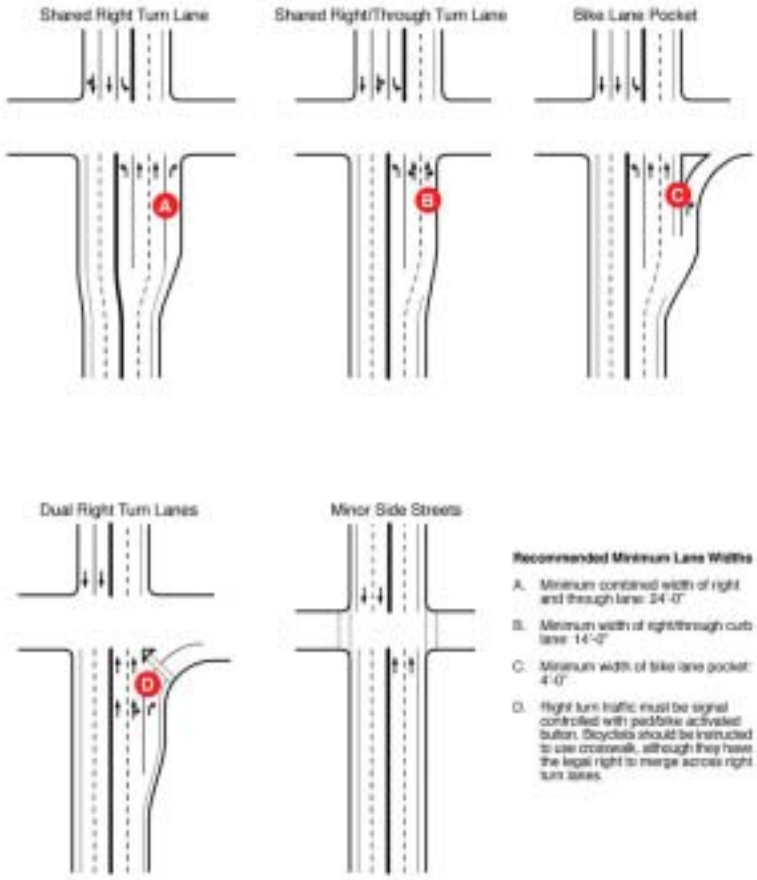




Parametrix

Design Guidelines: Bikeways @ Intersections

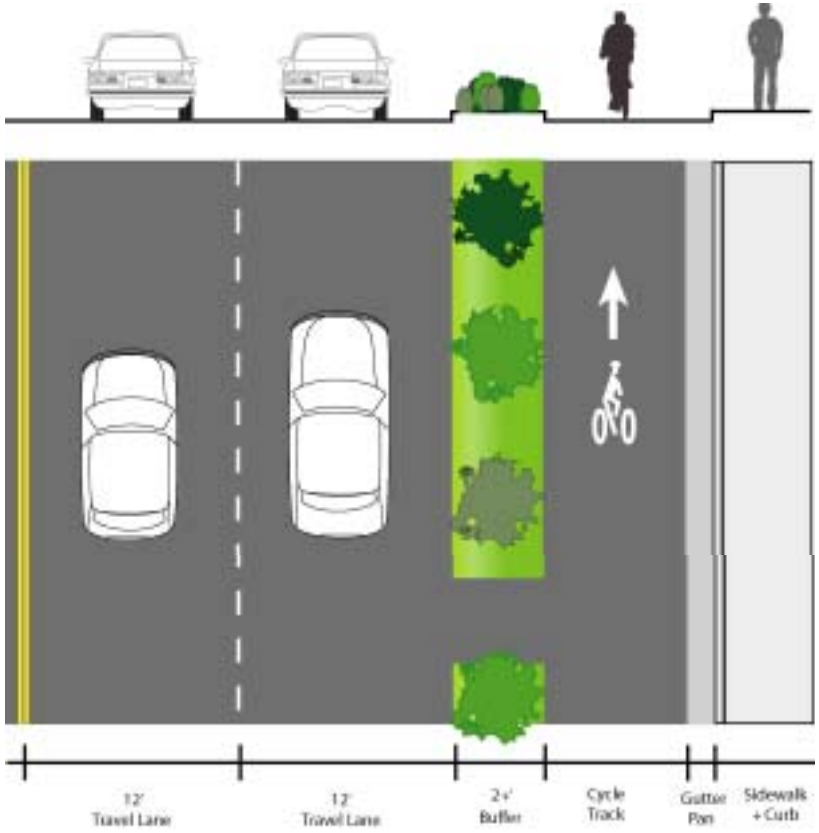




Parametrix

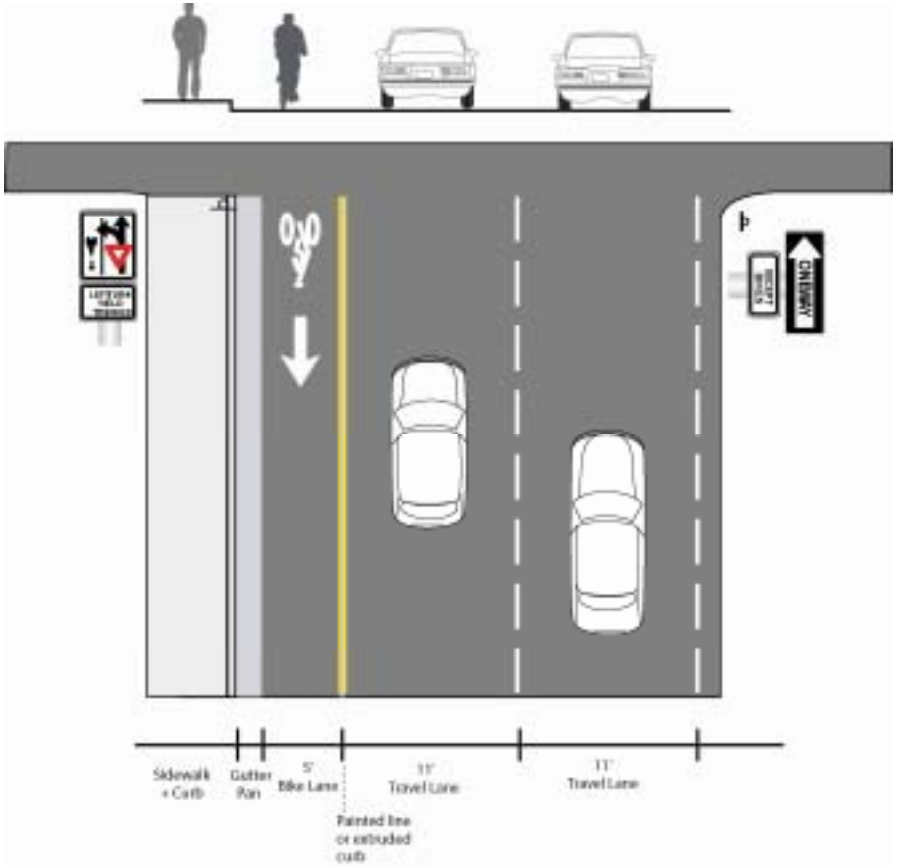
Design Guidelines: Other Treatments

- Cycle Track
  - Physically separated space for bicyclists
  - Good for long corridors with few crossings
  - Good, clear intersection design imperative



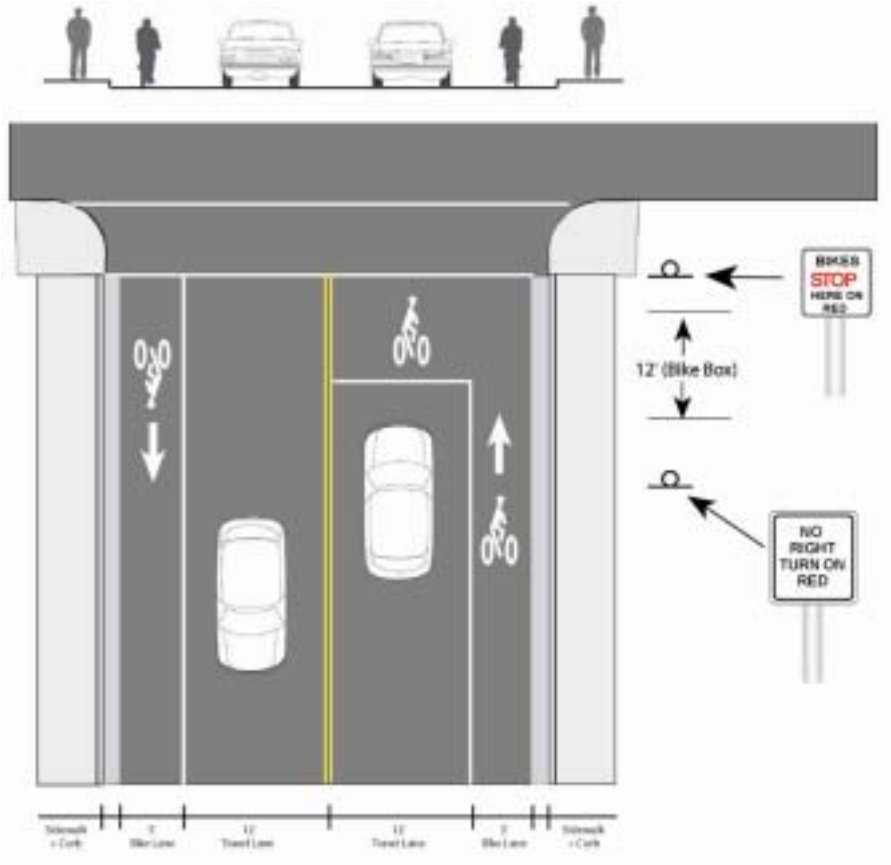
Design Guidelines: Other Treatments

- Contra-Flow Lane
  - One-way bicycle lane against flow of vehicle traffic
  - Good for connecting two bicycle facilities
  - Use only over short distances



Design Guidelines: Other Treatments

- Bicycle Box
  - Allows bicyclists to move to front of wait at intersection
  - Increases visibility of bicyclist for vehicles
  - Most appropriate on heavily used bikeways with bike lanes or locations with high percentage of right turning vehicles



Design Guidelines: Maintenance

- Track all signs and pavement marking locations and check conditions regularly
- Ensure major bicycle facilities sealed with smaller chip size
- Prioritize roadways with bicycle facilities in normal maintenance activities
- Establish clear communication channels for maintenance requests
  - Publicize phone numbers – 208.387.6352 or 6327
  - Allow notification through website:
    - http://www.ci.phoenix.az.us/EMAIL/emstmnt.html
    - http://www.cityofseattle.net/transportation/potholereport.htm

Education & Outreach

- Existing Materials
  - *Idaho Bicycle Commuter Guide*
  - *Idaho Bicycling: Street Smarts*
  - *Getting the Green: A Cyclists Guide to Getting Traffic Signals to Turn Green*
  - ACHD Bicycle Map

Education & Outreach

- Other Resources
  - Commuteride
  - ACHD Ped/Bike Program
  - ITD Bike/Ped Program
  - Valley Regional Transit / ValleyRide
  - Boise State Bike Congress
  - Boise State University Bike Barn

BSU Bike Barn

Education & Outreach

- Programs, Events, & Organizations
  - Bicycle shops
  - Clubs and racing teams
  - Roll with It & Bike to Work Challenge
  - League of American Bicyclists adult cycling skills training courses
  - Bike Rodeos
  - Girl & Boy Scouts
  - Boise Bike Week
  - May in Motion

Education & Outreach

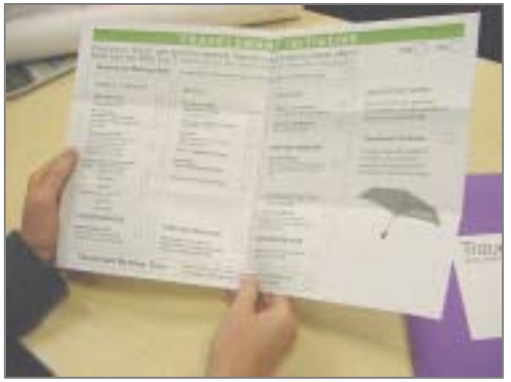
- Tier I Recommendations
  - “Lights On” Campaign
  - Bike Central Website
  - Public Service Announcements

Education & Outreach

- Tier II Recommendations
  - BSU Bike Orientation
  - Share the Path / Share the Road Campaign
  - Safe Routes to School – Phase 1
  - Bike to Work Month Commute Challenge

Education & Outreach

- Tier III Recommendations
  - Safe Routes to School – Phase II Youth Bike Safety Education
  - Pilot Smart Trips Program
- Other Recommendations
  - Bike Kitchen
  - Brown Bag Events
  - Bike Buddy program
  - Breakfast on the Bridges



Funding & Implementation

- Re-striping eligible roadways through annual maintenance processes
- Capital Improvement Plan (CIP) projects
- Outside funding sources
- Partnerships with cities, agencies
- Potentially more robust funding in ACHD

Next Steps

- Incorporate Open House Comments into Draft
  - October / November 2007
- Draft Roadways to Bikeways Master Plan
  - late November 2007
- Plan review / revision
  - December 2007
- Plan adoption
  - 2008
- Plan implementation
  - 2008 forward