Link Spokane:

Integrating Transportation & Utility Infrastructure Planning

CITY OF SPOKANE

NELSON NYGAARD

Overview

- What is Link Spokane?
- How Spokane Got Here
- Review of Draft Evaluation Criteria
- Implementing Link Spokane
- Best Practices in Transportation
- Discussion

What is Link Spokane?

- Update of the Transportation Chapter of the Spokane Comprehensive Plan including portions of the Capital Facilities Chapter.
- Address the current and future needs of all modes of transportation including cars, freight, transit, pedestrians and bicyclists.
- Designed to be fully integrated with other City investments in utilities and infrastructure.

Key Themes - Easy Access

Cities are an invention to maximize exchange (goods, culture, friendship, knowledge) and to minimize travel.

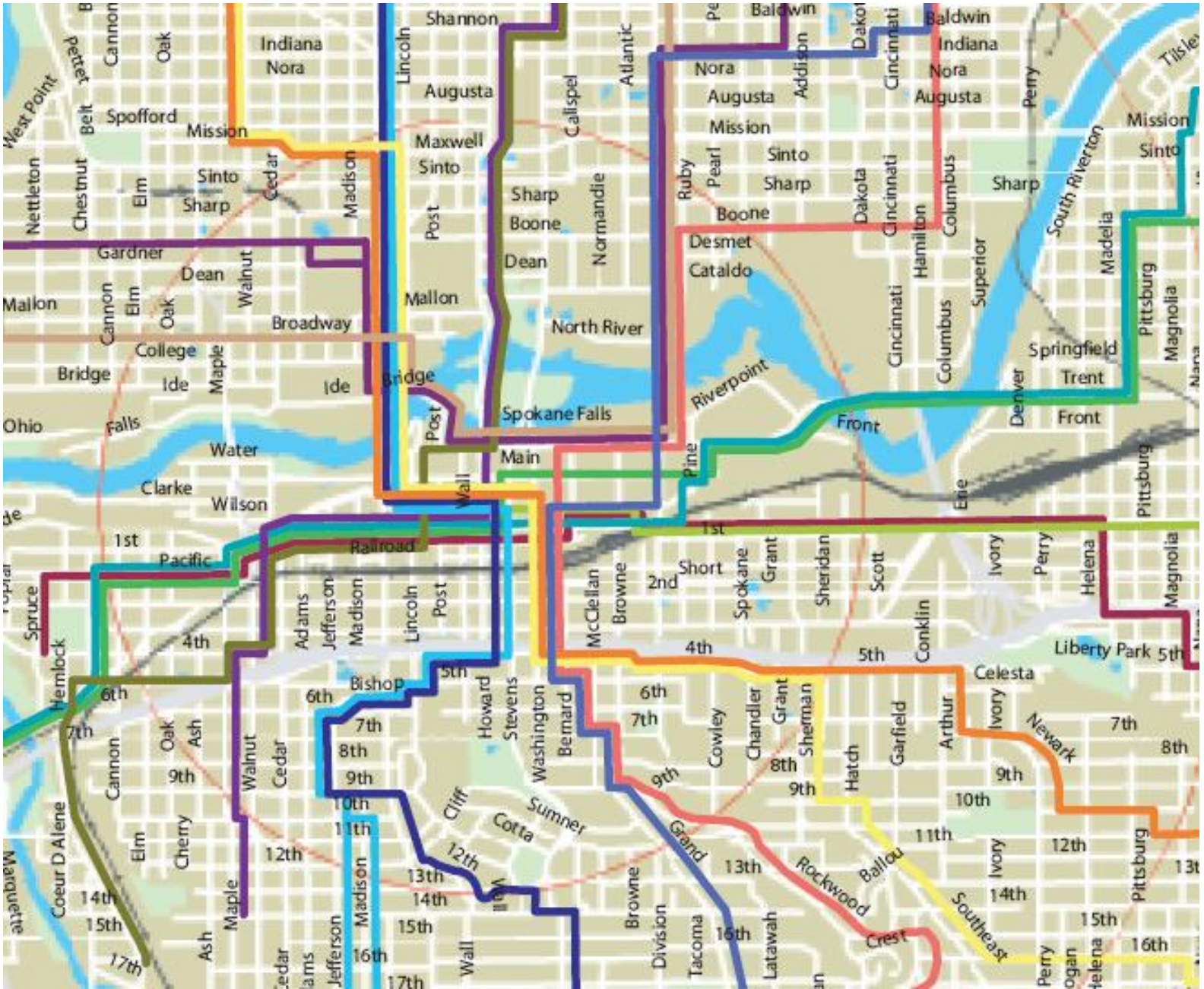
The role of transport is to maximize exchange

…David Engwicht


1948

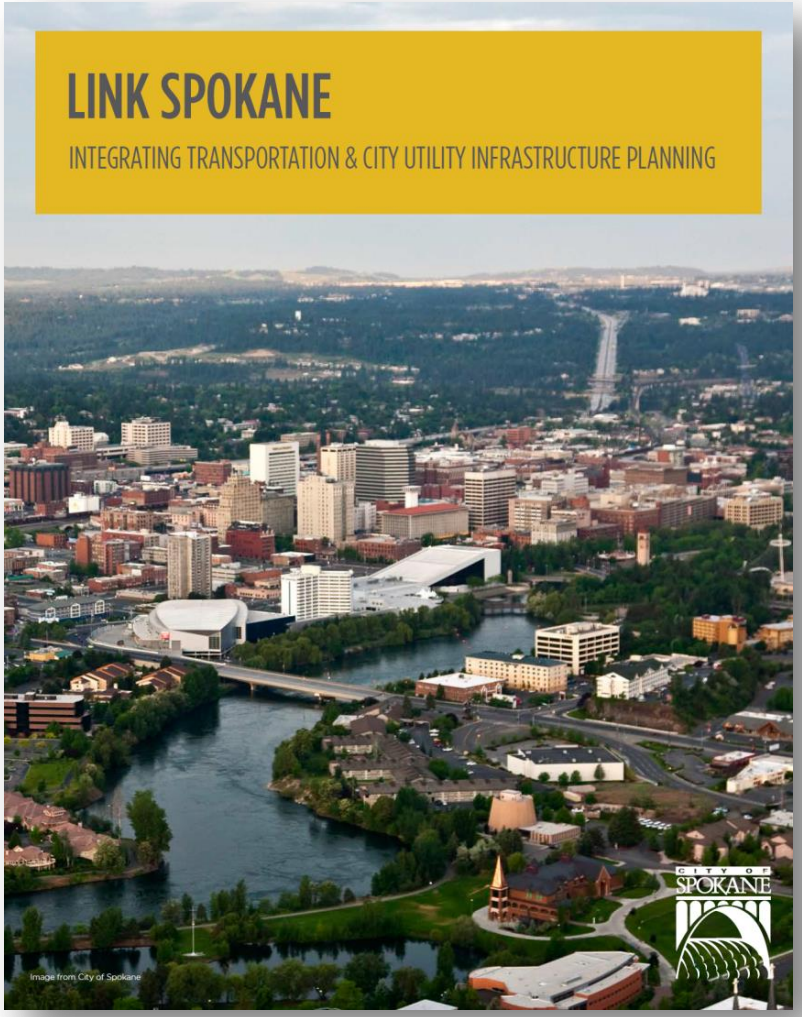

2007

Streetcar History - 1923




AUTO LOAN
CONSUMERS CREDIT CO.
MICHIGAN HOTEL
HOTEL
CAFE-CARDS
COOK
HOTEL MICHIGAN
DOOMED
GYMNASIUM

What's different about Link Spokane?



Stormwater management on City streets keeps runoff and pollutants from entering the river.

LINK SPOKANE: A River Runs Through It

The Spokane River is one of our most treasured natural assets. To improve and protect the health of the River, City of Spokane will spend about $300 million over the next decade. This endeavor represents the largest infrastructure investment in the City's history.

The City is developing what's called the Integrated Clean Water Plan to manage stormwater and wastewater that affects the Spokane River. The Integrated Plan will prioritize projects based on their positive environmental impact to the river and help us achieve Clean Water Act requirements.

In particular, the plan will include work to improve treatment at the City's Riverside Park Water Reclamation Facility and reduce the amount of stormwater and wastewater entering the River without treatment. Today, some 54 million gallons of combined wastewater and stormwater enters the river through 20 discharge points from our combined sewer system annually. Another 1 billion gallons of untreated stormwater enters the river through separated storm drains, primarily located on the North Side.

Projects to reduce untreated discharges to the river from both separated storm sewers and combined sanitary and stormwater sewers are a big part of the effort. The work will include new green technologies for managing stormwater on site as well as more traditional "gray" storage tanks.

The Integrated Clean Water Plan includes three primary goals:

- We want a cleaner river, faster. Prioritize work with the greatest potential to reduce phosphorus, PCBs, heavy metals, bacteria from sewage, and other pollution going into the River.
- We want to implement cost-effective and innovative approaches. Spend dollars wisely and include "green" technologies like rain gardens, pervious pavement, and street trees as they make sense.
- We want holistic integration with the City's other critical infrastructure. The City is working to solve multiple problems when possible, leveraging the dollars spent to give citizens additional benefits, like improved streets, new water mains, and park improvements.

Before considering an integrated strategy, the City had expected to spend about $500 million on improvements at the Water Reclamation Plant and to reduce combined sewer overflows. Under this scenario, other sources of pollution to the river, including stormwater, wouldn't have been addressed.

The City was able to reduce the size of the program, in part, with a commitment to manage stormwater on site when reconstructing streets or making other infrastructure improvements—one of the ways that we will benefit from joint transportation and utility planning efforts. The stormwater can be managed using new cost-effective, green technologies.

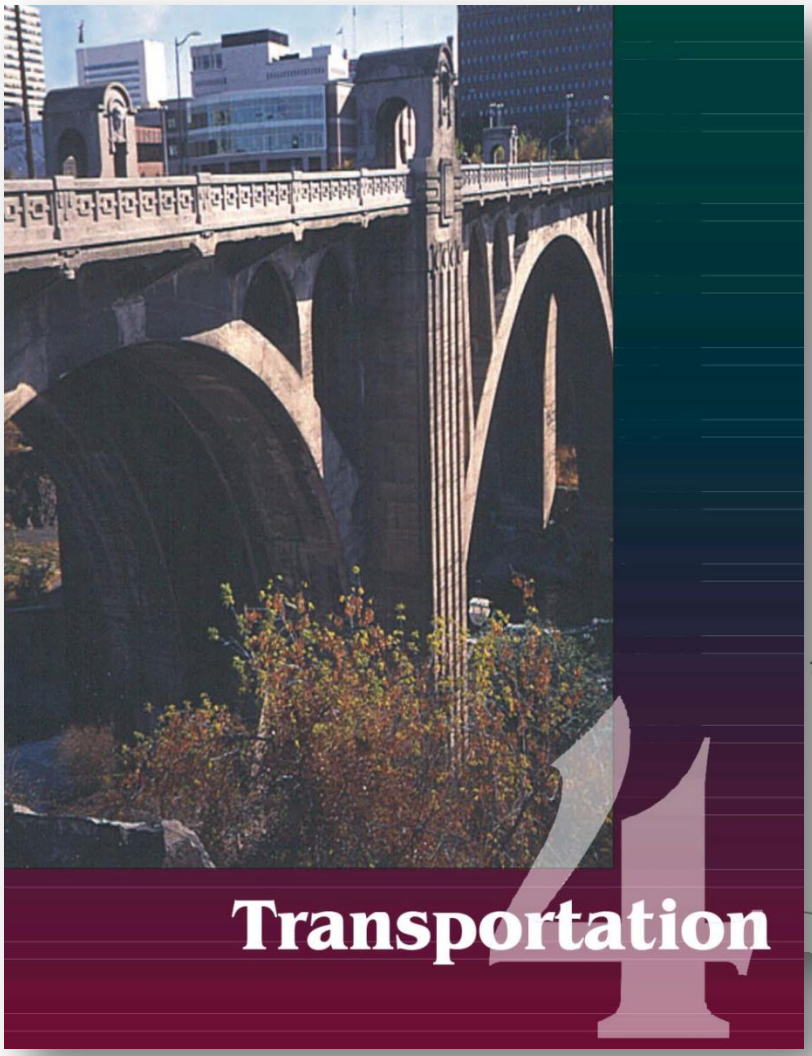
The storm gardens on South Lincoln Street and the stormwater planters and pervious pavement on West Broadway Avenue are some examples of these strategies. Strategies that integrate transportation improvements and stormwater management technologies are being incorporated into Link Spokane.

Images from City of Spokane

AN INTEGRATED APPROACH TO OUR TRANSPORTATION FUTURE 5

Link Spokane Vision

Relationship to Existing Transportation Chapter



The preferred separation is a pedestrian buffer strip. Pedestrian buffer strips, also known as planting strips, can be landscaped with a variety of treatments, not just grass (see policy TR 7.4, "Pedestrian Buffer Strips").

In some cases, some other type of pedestrian pathway, such as a trail or staircase, may be preferred to the separated sidewalk. The type of pedestrian circulation provided may differ according to the type of street, topography, or unique circumstances.

In situations where a separation from the street is constrained, such as by topography or existing development, deviations from this policy can be granted by the Design Review Committee upon a finding that an alternative design is necessary to achieve the spirit and intent of the Comprehensive Plan. The potential additional cost to achieve separation is not, in itself, justification for a policy deviation. The separation between sidewalks and streets is the preferred, *expected* form of sidewalk design. Deviations from the separation design are to be for truly exceptional cases—the exception, not the rule.

TR 2.8 Sidewalk Repair and Replacement

Repair and replace broken and uneven sidewalks to improve safety and to encourage use by pedestrians.

Discussion: Traditionally in Spokane, the repair of sidewalks has been the responsibility of the adjacent property owner. Within some Community Development neighborhoods, some federal funding has been allocated towards sidewalks. One potential way to accomplish this policy on a citywide basis is for the City of Spokane to conduct a citywide assessment of the current condition of existing sidewalks. At the same time potential alternatives for funding resources should be identified. A sidewalk repair and replacement program should be developed based on identified needs and funding alternatives. This is an example of a needed program that should be developed by city staff dedicated to pedestrian/bicycle coordination (see policy TR 2.3, "Pedestrian/Bicycle Coordination").

TR 2.9 Crosswalks

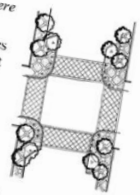
Establish and maintain crosswalks at key locations used by pedestrians.

Discussion: Key locations for crosswalks include heavily traveled street crossings, transit stops, parks, and school sites. Crosswalk types include the traditional crosswalk formed by painted lines or distinctive crosswalks, such as those surfaced with scoured or colored concrete or brick pavers.

TR 2.10 Pedestrian and Bicycle Linkages Across Barriers

Provide pedestrian and bicycle linkages between major activity areas where features that act as barriers prevent safe and convenient access.

Discussion: Due to geographic or man-made features such as steep hillsides or freeways, special linkages may be needed to provide safe and convenient pedestrian and bicycle access. Existing examples of such linkages include the staircases with bike wheel channels linking Peaceful Valley with Browne's Addition and the pedestrian bridge spanning I-90 in the East Central neighborhood.



Pedestrian and bicycle bridges or skywalks should not be developed where pedestrians can be safely accommodated at the ground level through other techniques, such as crosswalks, pedestrian islands, and traffic calming devices.

Transportation

Existing Transportation Chapter Goals

TR 1: Overall Transportation

TR 2: Transportation Options

TR 3: Transportation and Land Use

TR 4: Efficient + Safe Mobility

TR 5: Neighborhood Protection

TR 6: Environmental Protection

TR 7: Sense of Place

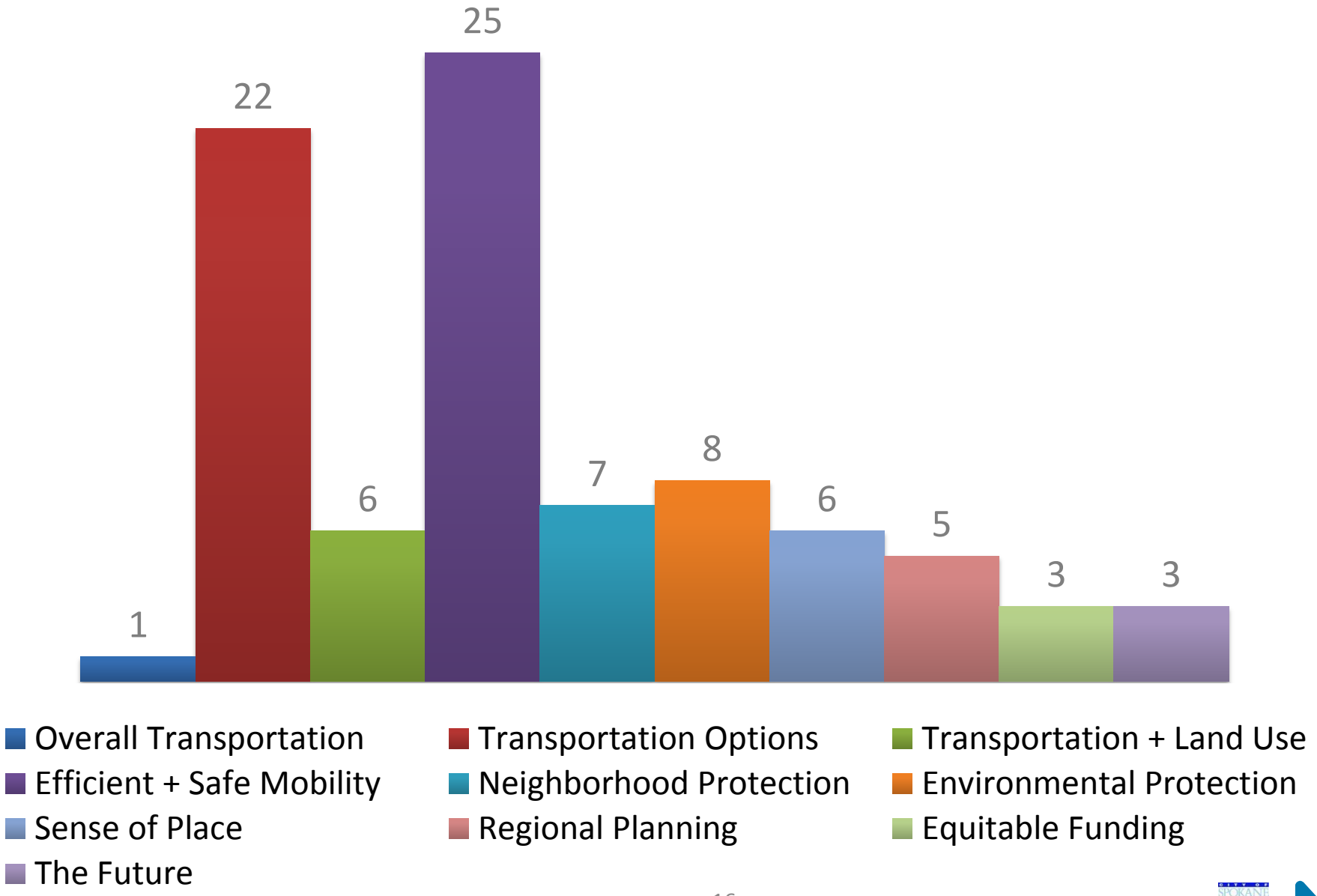
TR 8: Regional Planning

TR 9: Equitable Funding

TR 10: The Future

2013 Audit found weak correlation between goals and built environment

Policies by Goals

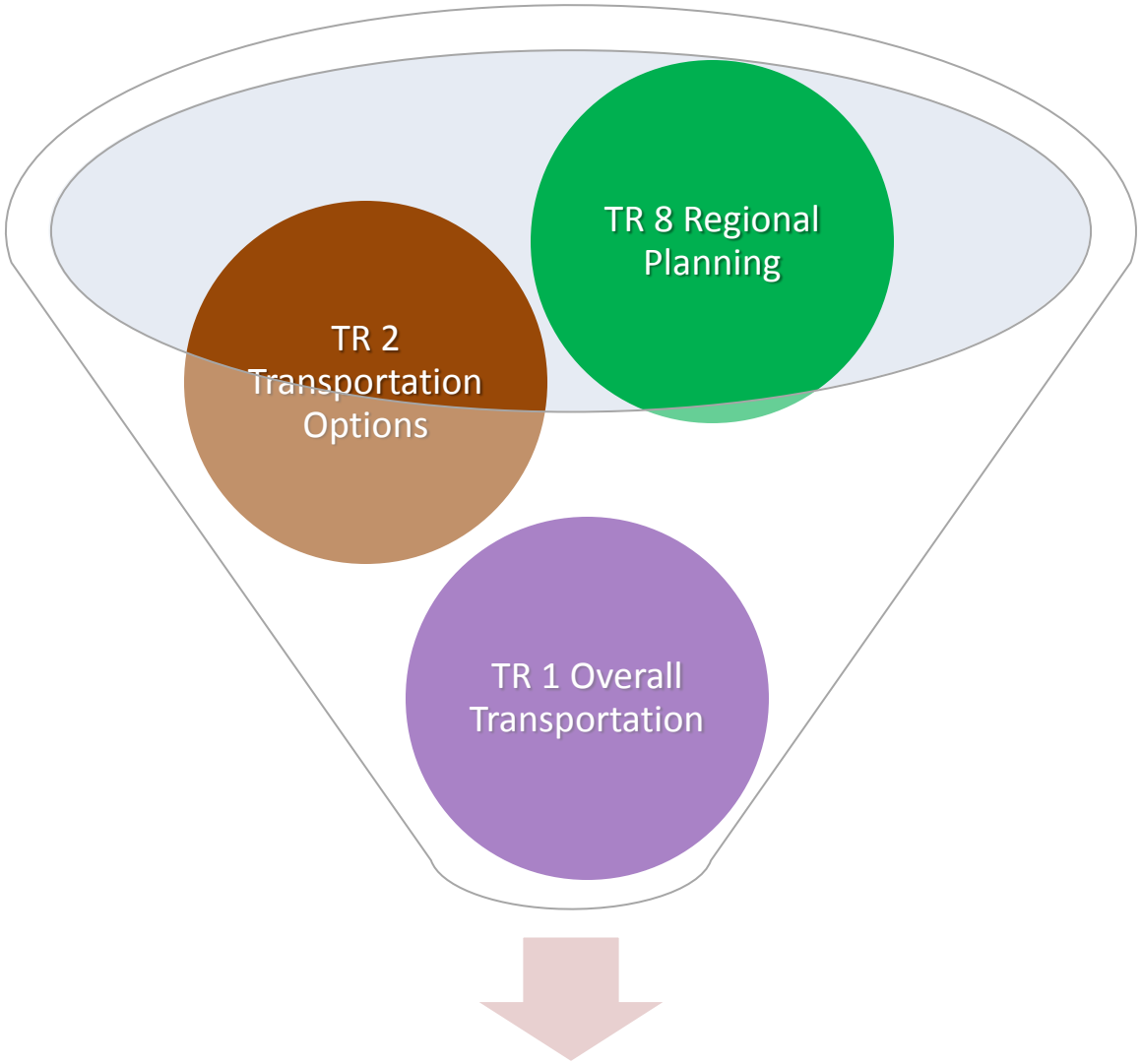


Transportation Vision Statement

"Citizens of Spokane will have a variety of transportation choices that allow easy access and mobility throughout the region and that respect property and the environment"

Link Spokane Draft Evaluation Criteria

- Provide transportation choices.
- Accommodate access to daily needs & regional destinations.
- Promote economic opportunity & fiscal responsibility.
- Respect natural and neighborhood assets.
- Enhance public health and safety.
- Maximize public benefits with integrated public investments.



Provide Transportation Choices

1:Overall Transportation
2:Transportation Options
3:Transportation and Land Use
4:Efficient + Safe Mobility
5:Neighborhood Protection
6:Environmental Protection
7:Sense of Place
8:Regional Planning
9:Equitable Funding
10:The Future

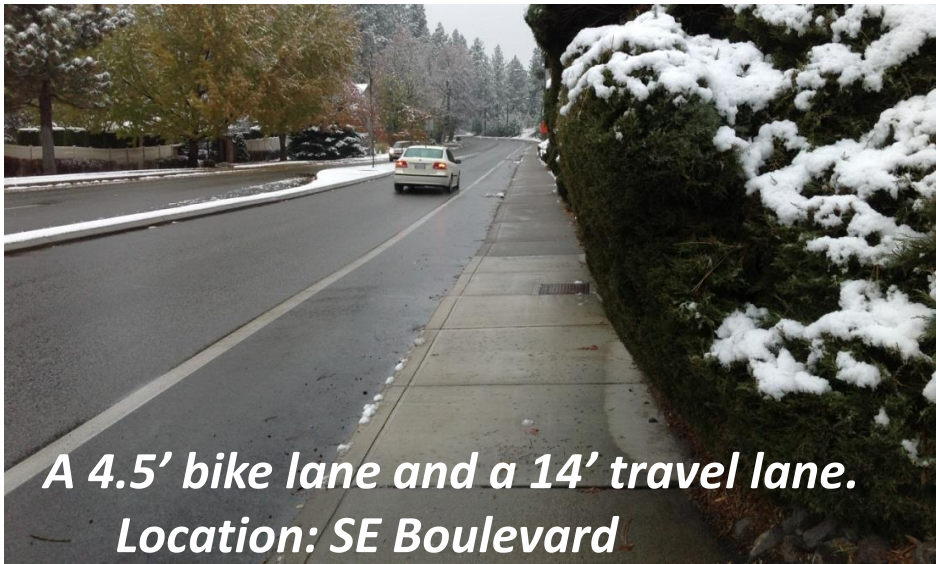
Transportation choices
Economic opportunity
Public health and safety
Neighborhood assets
Natural assets
Access to regional destinations
Fiscal responsibility
Integrated investments

6’8” parking lane – drivers park on the sidewalk. Location: Sprague Ave

On-street parking allowed but unutilized adds to driver speed. Location: Bernard St


Five Mile Road


LANE
ENDS
Addison Street


A 4.5’ bike lane and a 14’ travel lane.
Location: SE Boulevard

A bus rider runs across five lanes of traffic after alighting from the bus. Closest signalized crossing 0.25 miles away. Location: Francis & Belt

- Current Design Standard (DS)
  - Through lanes: 12’
  - Center turn lane – 14’
  - Parking lane – 8’
- Current Standard (Comp Plan)
  - Principal/Minor Arterials: 12’ outer, 11’ inner
  - Collectors 12’ outer, 10’ inner
  - Parking lane – 7’ residential, 8’ collectors/arterials

Research and Data - *Travel Lane Width*

Safety

- No indication, expect in limited cases, that narrower lanes increase crash frequencies. (Potts, Petritsch)

- Wider lanes linked to higher speeds. Higher speeds increase likelihood and severity of crashes.

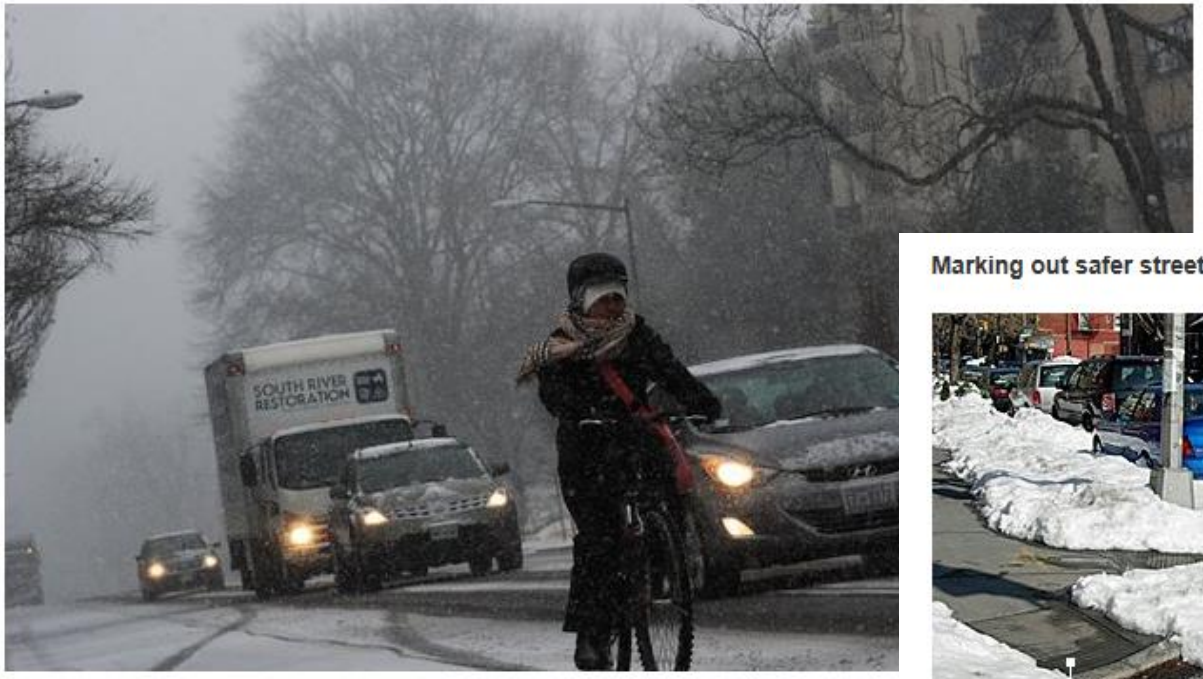
Capacity Research

- Capacity is not degraded until lane width is reduced to less than 10' (Petritsch)

- *Dumbaugh, Eric. "Safe Streets, Livable Streets." JAPA. Summer 2005.*
- *Texas Transportation Institute. "Design Factors that affect driver speed on suburban arterials."*
- *Potts, Howard, and Richard. "Relationship of lane width to safety for urban and suburban arterials." TRB 2007.*
- *Petritsch, Theodore. "The influence of lane widths on safety and capacity."*

Sneckdown: Using snow to design safer streets

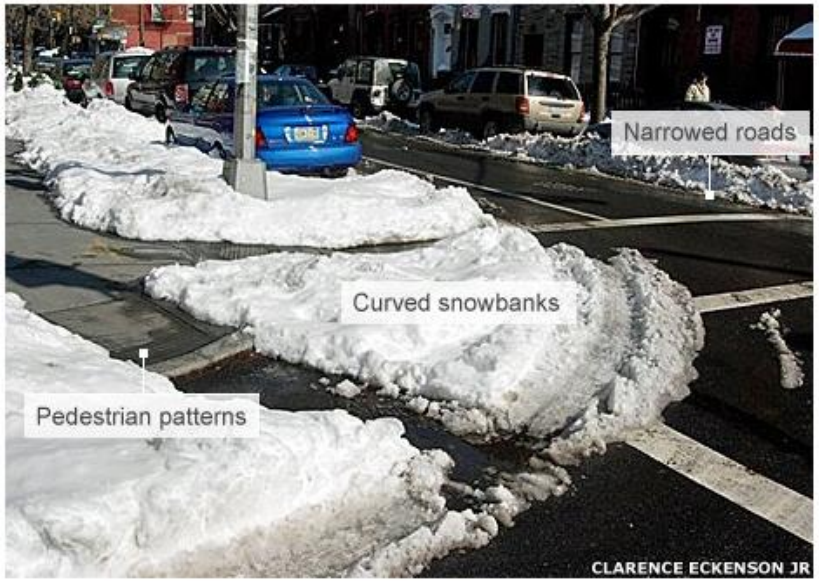
By Kate Dailey
BBC News Magazine



Massive snowfalls like the one that hit the US east coast this week usually spell trouble for traffic. But critics of America's car-centric transport network are using the snow - and Twitter - to demonstrate how roads should be redesigned to make them safer for pedestrians.

Fast-falling snow can lead to unsafe driving conditions, massive pile-ups, delayed trains, cancelled flights and slippery sidewalks.

Marking out safer streets



- Snow-ploughing creates **narrowed roads**, illustrating possible space for parking, pedestrians or bike lanes.
- **Curved snowbanks** create wider pavements and indicate how much road space cars need when turning
- Cleared snow on pavements shows **pedestrian patterns**

Riverside Ave. – Spokane, WA

Riverside Ave. – Spokane, WA

Transportation Choices

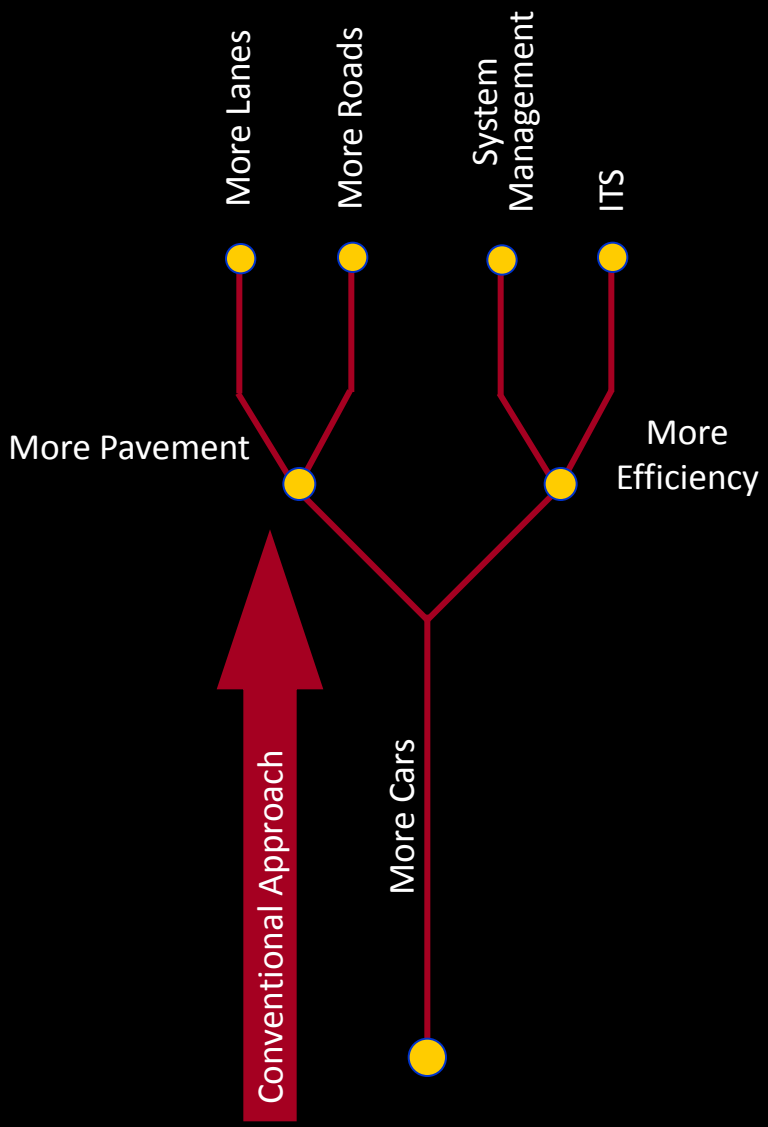
1930

2010

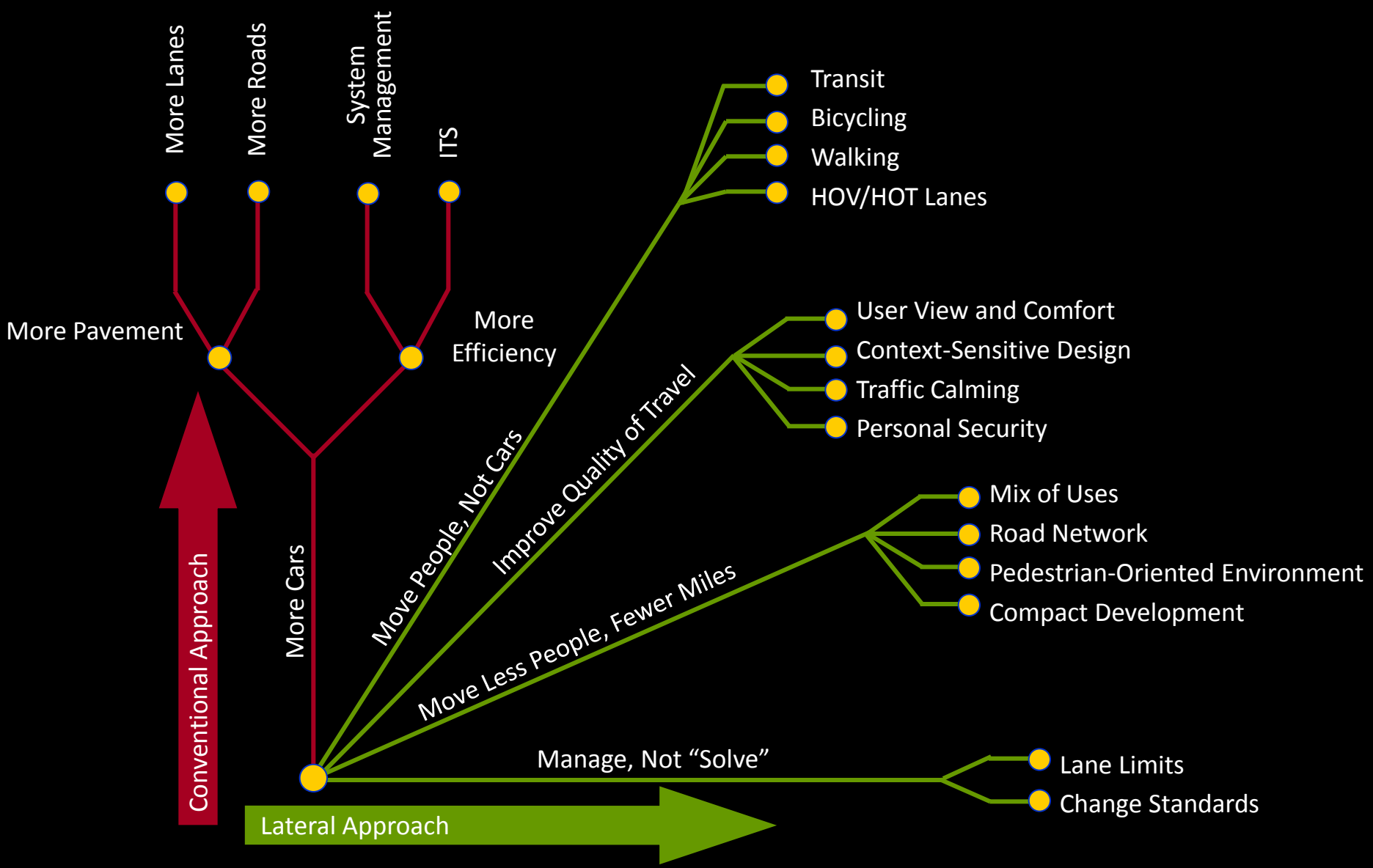
Main Street

Spokane, WA

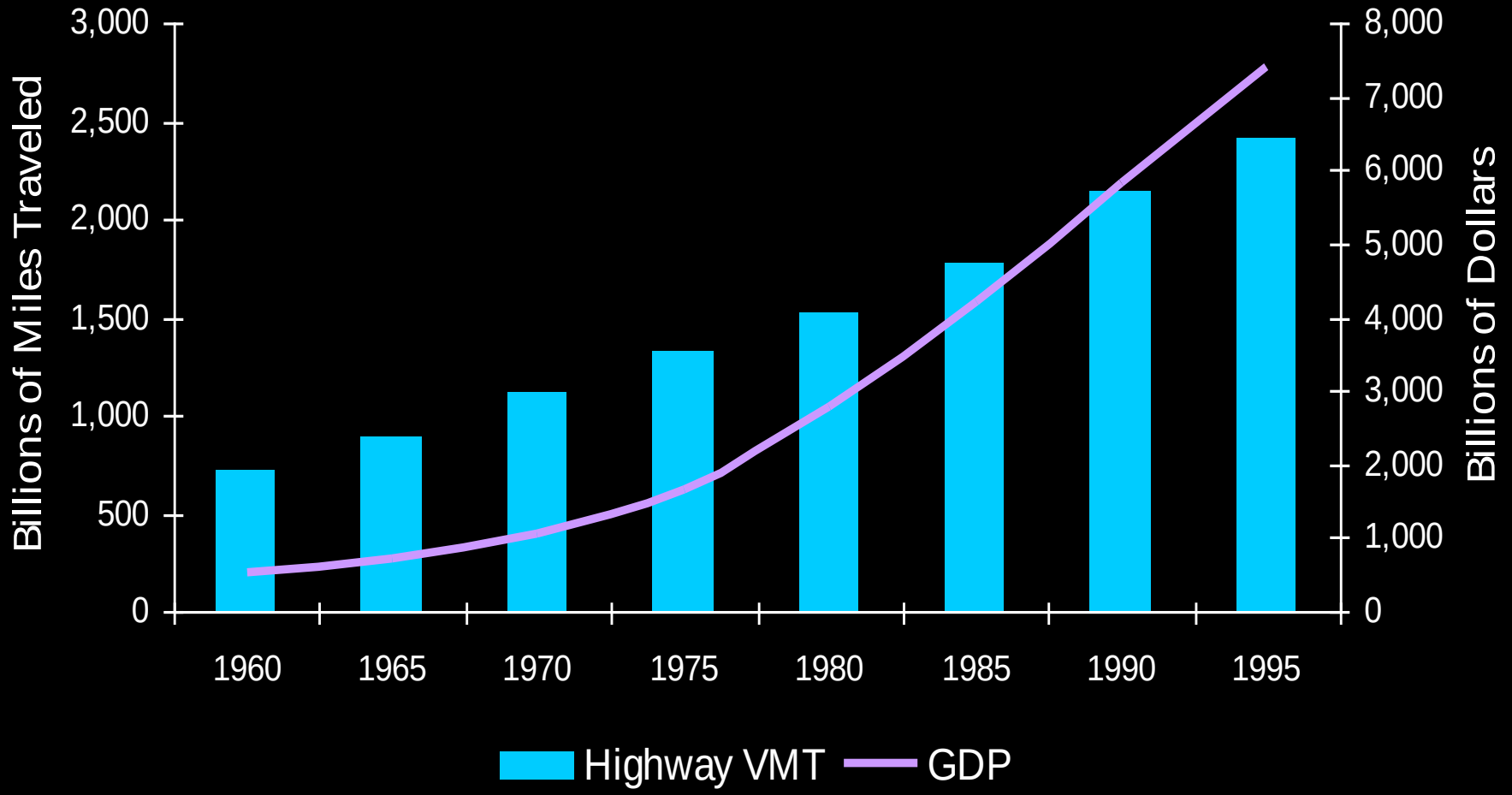
Conventional Approach



Balanced Approach



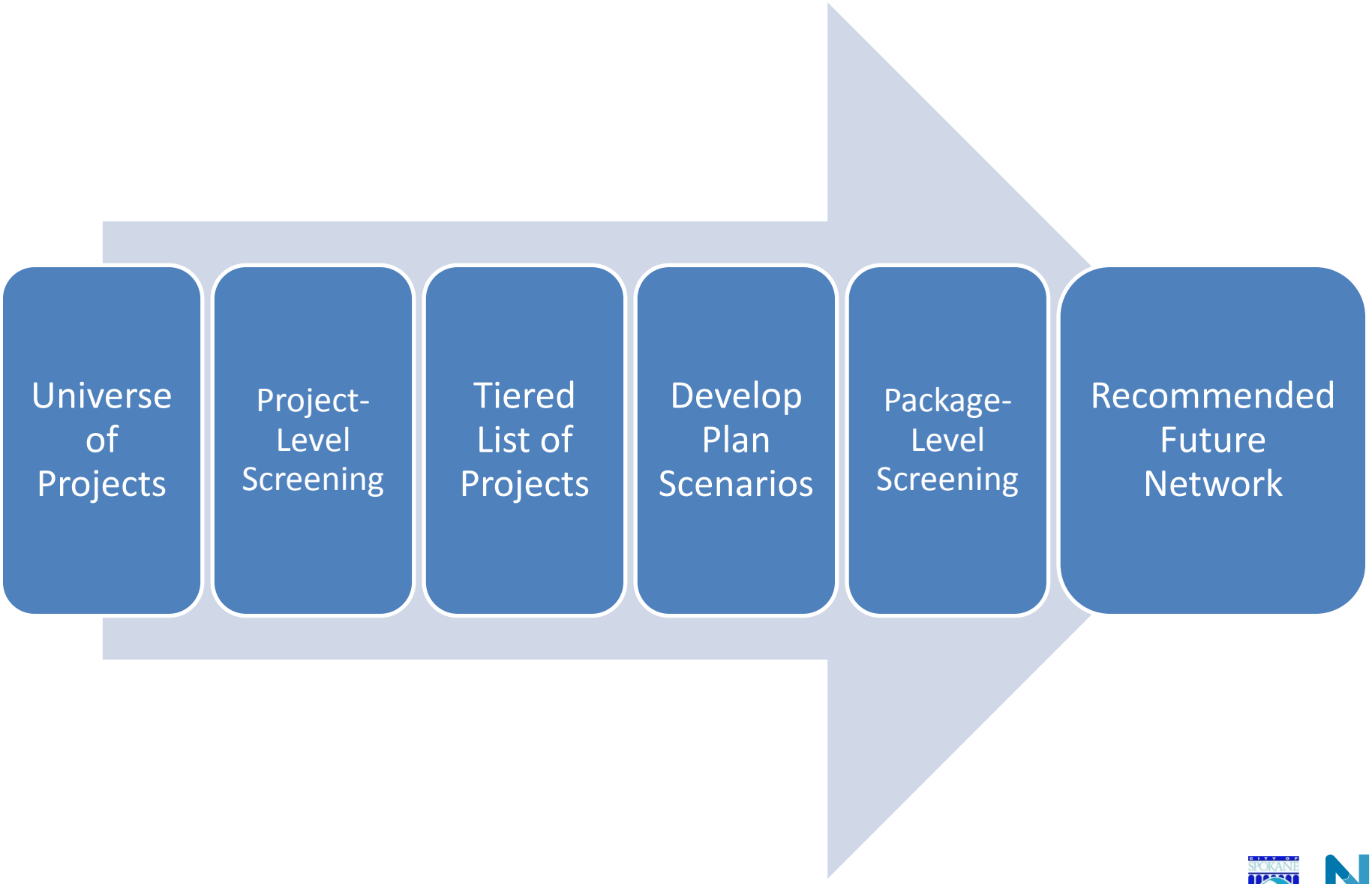
Transportation's Power



Updating the Transportation Policy Framework

- Develop direct evaluation criteria and align policies to make them more clear, objective and implementable.
- Evaluate, prioritize, fund and build transportation projects based on performance metrics.
- Refine transportation Level of Service (LOS) standards to reflect goals and policies.
- Update Street Design Standards for future roads and street rehabilitation projects.

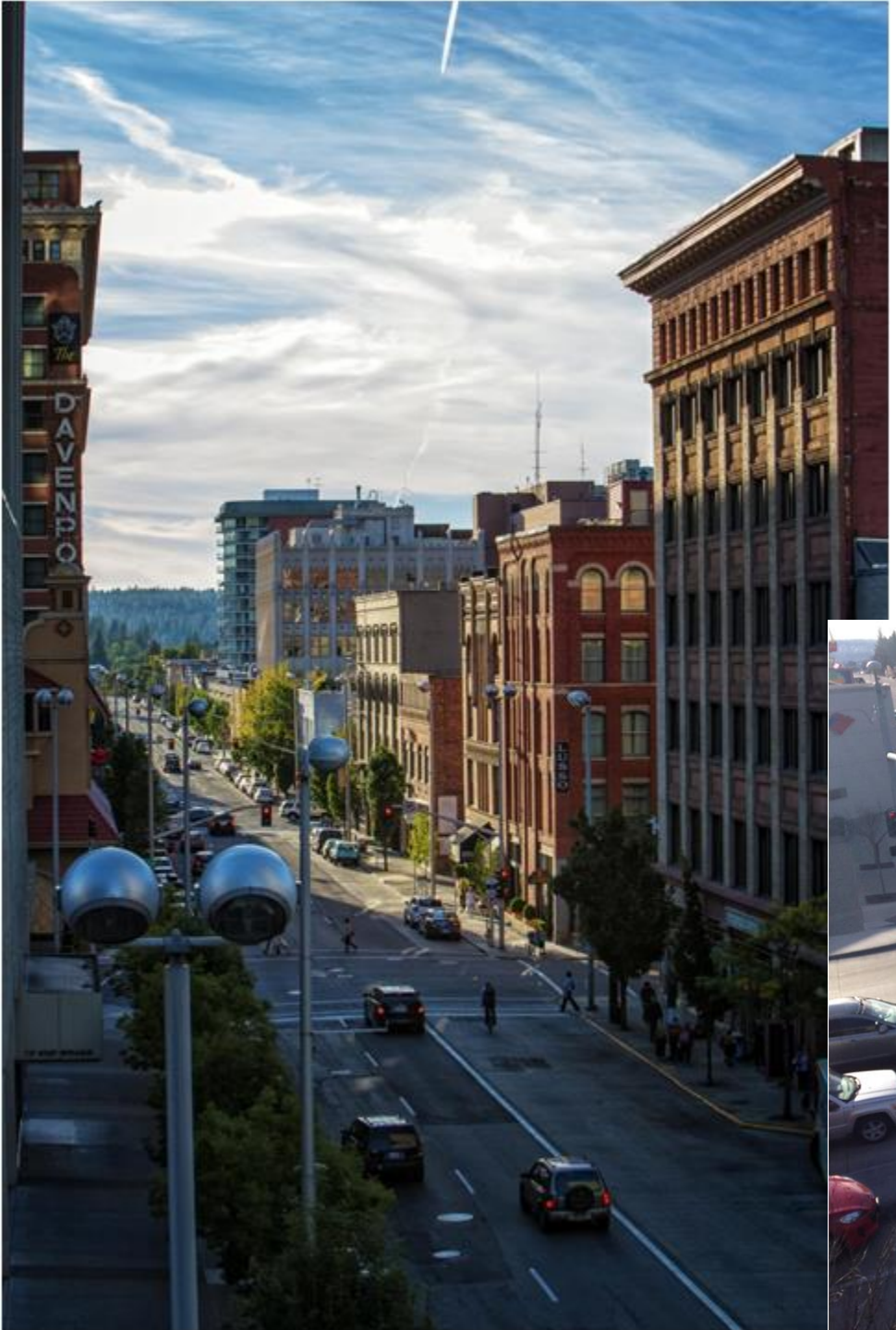
Overview of Project Screening Process



Community-Driven Process

Level of Service (LOS) Standards:

Implementing Link Spokane



Multi-modal Quality of Service

Automobile Level of Service

A: +No delay at intersections.

C/D: +Drivers wait no more than 1 red light

F: -Longer delays at intersections.

Transit Quality of Service

A: +More frequent service, stops, and amenities.
+Attracts riders who choose transit over other modes.

C/D: +Good bus service
+Basic stops and amenities

F: -Limited or no service.
-Fewer stops and amenities

Bicycle Quality of Service

A: +Complete system for all types of users.
+Good condition, few stops, and conflicts with autos

C/D: Cyclists of various skill levels are able to bike comfortably to key destinations

F: -More gaps in system
-More stops and auto conflicts
-Poor pavement

Pedestrian Quality of Service

A: +Complete system
+Easier to cross
+Improved Comfort

C/D: An adequately complete network of decent sidewalks

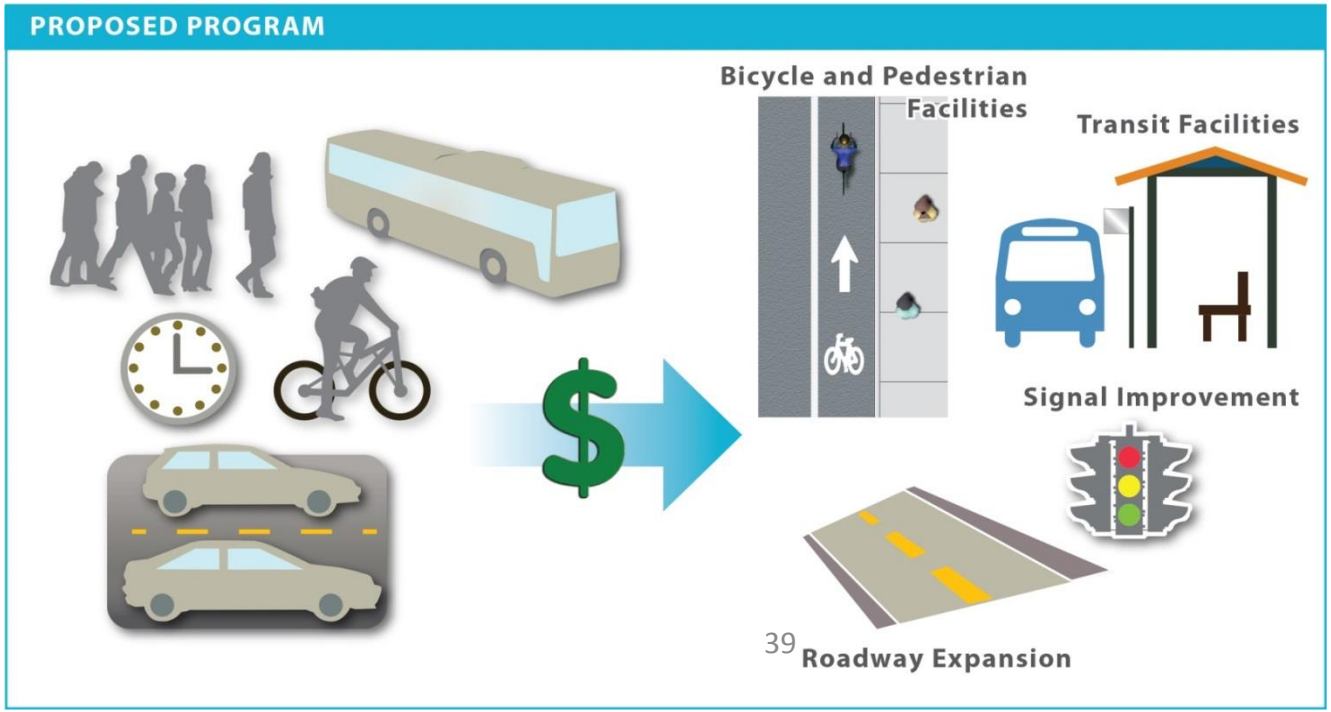
F: -Gaps in system.
-Poor pavement
-Less inviting.

Balance and prioritize design to meet street's purpose

Resulting Multi-modal Impact Fee Projects

- New traffic signals
- Additional lanes at intersections
- New arterial connections

- **Sidewalk infill**
- **Right-sizing**
- **Bike lanes**
- **Crosswalk improvements**



Best Practices:

Implementing Link Spokane

20-Minute Neighborhoods

Best Practice

Neighborhood serving retail within walkable/bikeable distances in Denver

Local Application

Garland neighborhood as a local blueprint

Draft Evaluation Criteria

- Accommodates access to daily needs and regional destinations
- Promote economic opportunity and fiscal responsibility
- Promote public health and safety

Transit Innovations

Best Practice

Draft Evaluation Criteria

- Provide transportation choices
- Accommodate access to daily needs and regional destinations
- Promote public health and safety
- Respect natural and neighborhood assets

Multi-modal Safety

Best Practice

Improving arterial crossings including crosswalk markings, raised crosswalks, lighting, and signage

Draft Evaluation Criteria

- Provide transportation choices
- Accommodate access to daily needs and regional destinations
- Promote economic opportunity and fiscal responsibility
- Promote public health and safety
- Respect natural and neighborhood assets
- Maximize benefits through integrated public investments

Right Sizing

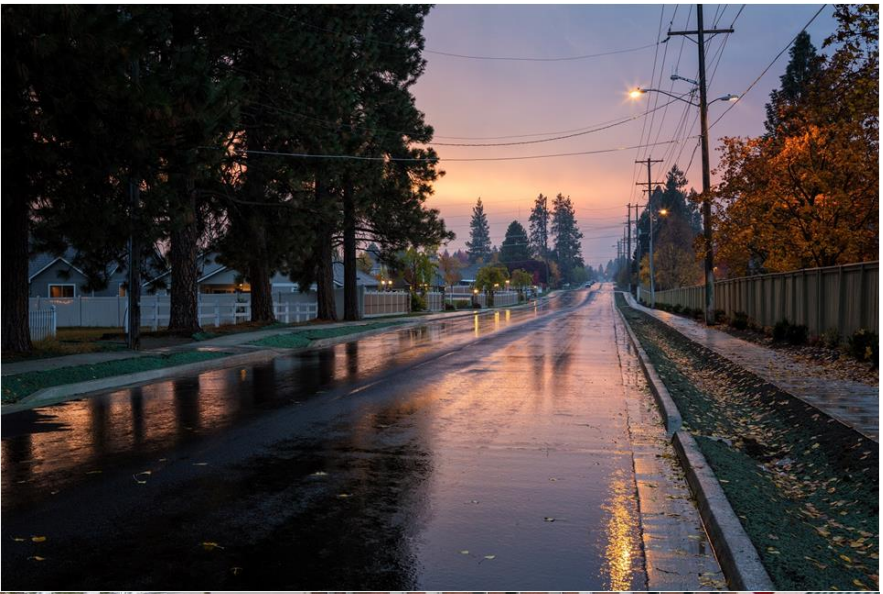
Best Practice

Draft Evaluation Criteria

- Provide transportation choices
- Promote economic opportunity and fiscal responsibility
- Promote public health and safety
- Maximize benefits through integrated public investments

Integrating Stormwater Management

Best Practices



Draft Evaluation Criteria

- Promote economic opportunity and fiscal responsibility
- Promote public health and safety
- Respect natural and neighborhood assets
- Maximize benefits through integrated public investments

Neighborhood Greenways

Best Practice

Draft Evaluation Criteria

- Provide transportation choices
- Accommodate access to daily needs and regional destinations
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- Promote public health and safety
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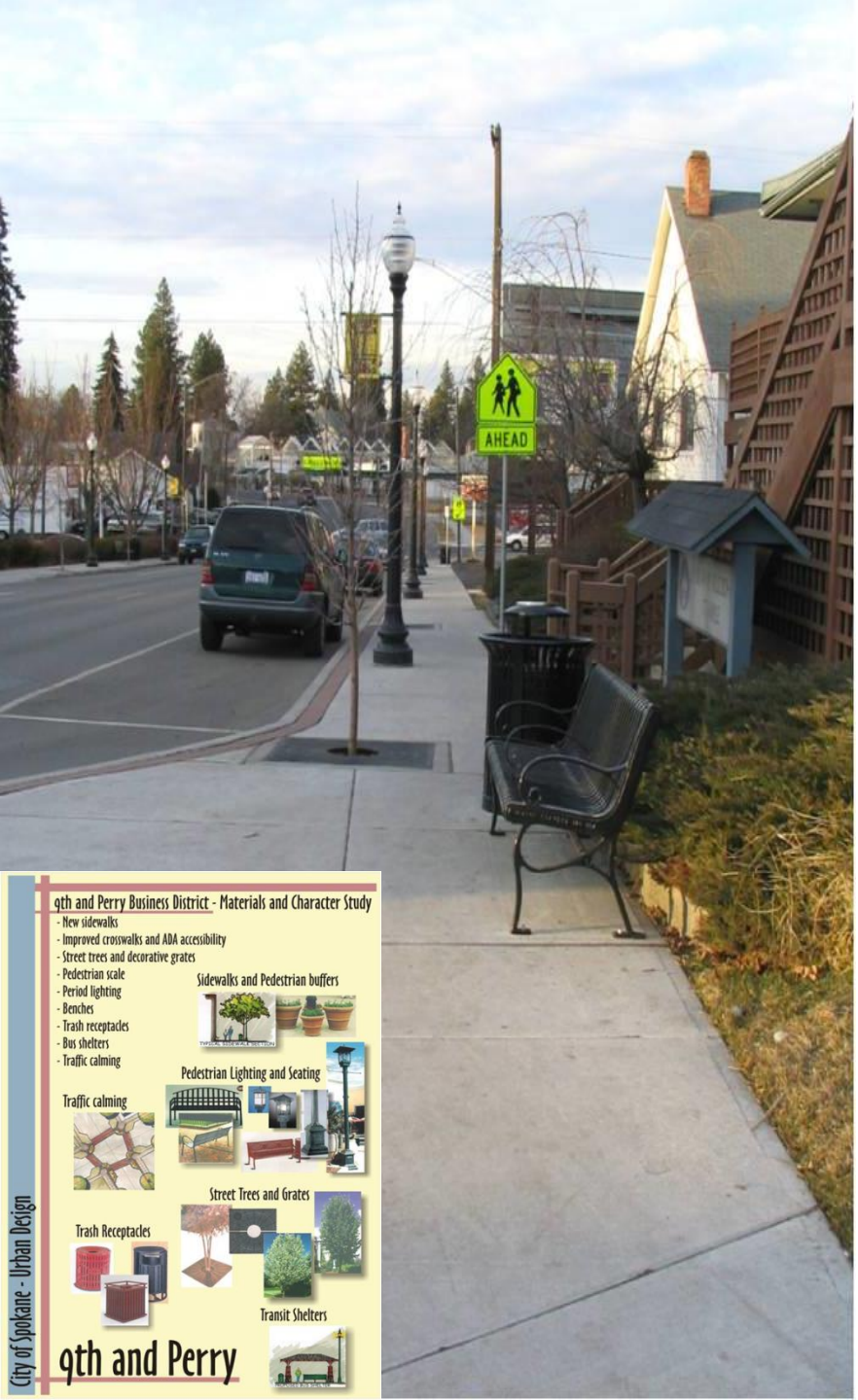

Catalytic Streetscape Investments

Draft Evaluation Criteria

- Provide transportation choices
- Accommodate access to daily needs and regional destinations
- Promote economic opportunity and fiscal responsibility
- Promote public health and safety
- Respect natural and neighborhood assets
- Maximize benefits through integrated public investments

Discussion

Project website
www.spokaneplanning.org/link.html

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Follow us on Twitter
@SpokaneCity

Making Spokane a City of Transportation Choices

- Provide viable transportation options for all users
- Reduce city capital and maintenance costs
- Promote health through active transportation
- Attract creative industries
- Reduce household transportation costs

Integration

- "3D view" of streets (above and below grade)
- Leverage transportation investments to meet multiple objectives:

- stormwater/combined sewer overflow (CSO)
- economic development/land use
- transportation

- Limit disruption to residents and businesses

Fixing it First

- Maintain and enhance our existing transportation assets
- $150 million backlog
- $40 million annually to maintain system, but only $5 million is funded
- Leverage internal and external resources

Health & Safety

- Leverage investments to enhance traffic safety and promote positive public health outcomes
- “Right-sizing” on appropriate streets can increase safety and reduce maintenance costs
- Build active transportation back into our daily lives

Livable Streets

- Match street design to the function for Spokane districts and neighborhoods
- Livable streets can be:

- Safe and convenient for all users
- Economically vibrant in centers and along corridors
- Multi-purpose and multi-functional
- Supportive of neighborhood quality of life