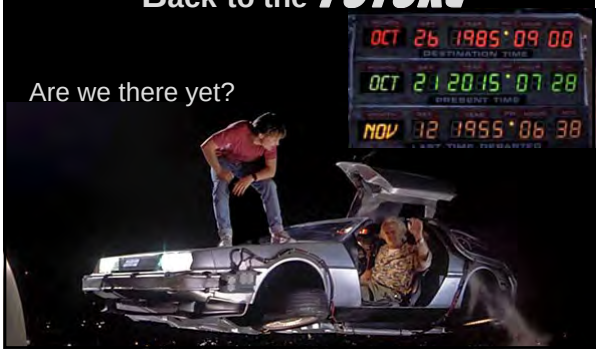
Transportation Transformation

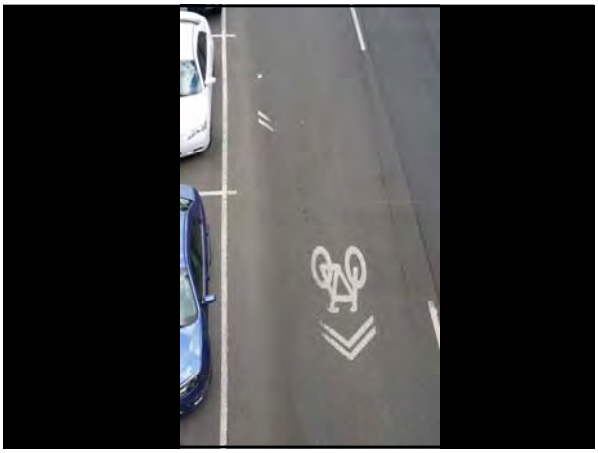
Back to the FUTURE

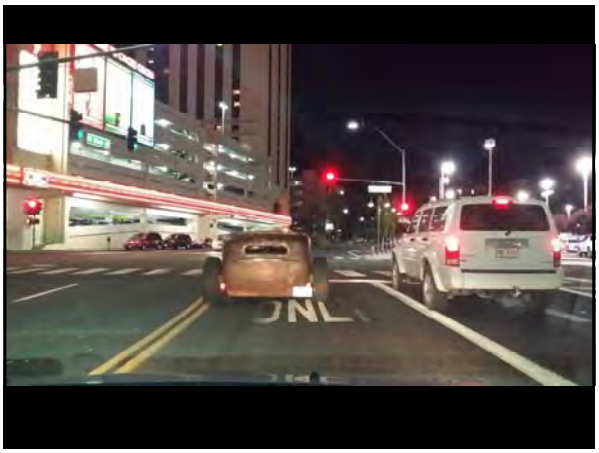


Are we there yet?

Why are we here?

- Urbanity! = Efficiency
  - (let us get real… Cities created to minimize transportation costs)
- Place Making (shush…urbanity)
- Safety for all users (Civility -some not ready)
- Multi-modal (Efficiency)
- Fiscally responsible (Bang for buck)
- Right-sizing - "Road Diets" term fading





- Chris Comeau, Bellingham
  - Alabama Street Corridor
- Joel Pfundt, Redmond
  - Downtown East / West Corridor Study
- Kendra Breiland, Fehr & Peers
  - Kirkland, Juanita Drive Corridor Study

Transportation Transformation:
Back to the Future

APA Washington Conference
Spokane, WA
October 16-17, 2014

American Planning Association Washington Chapter
Making Great Communities Happen
Legacy & Prophecy
October 16-17, 2014
Davenport Hotel | Spokane, Washington

APA Washington Conference
October 17, 2014

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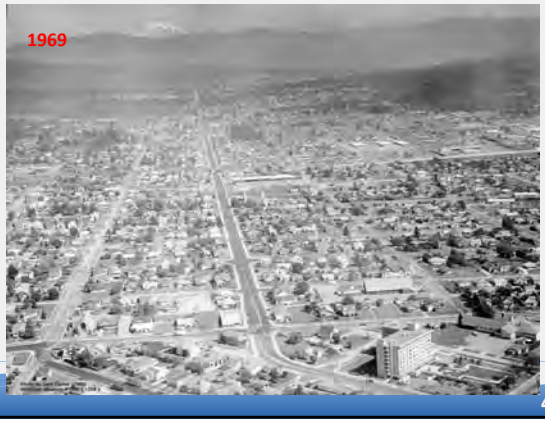

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Present-Day Alabama Street

Major east-west commuter route

Alabama ADTs
13,000 west
19,000 central
16,000 east

Arterials Intersect
Cornwall – 8,100
James – 15,100
Orleans – 9,400
Pacific – 4,400
Woburn – 19,000

5

Fast Forward - 2011

- Public process for Pedestrian Master Plan
- Alabama consistently identified as a major barrier to mobility
- Plan Recommendation: ***Alabama Corridor - Feasibility Study for Road Diet and Pedestrian Safety Improvements***

6

Alabama = Mobility Barrier

for neighborhoods, pedestrians, bicyclists, transit riders

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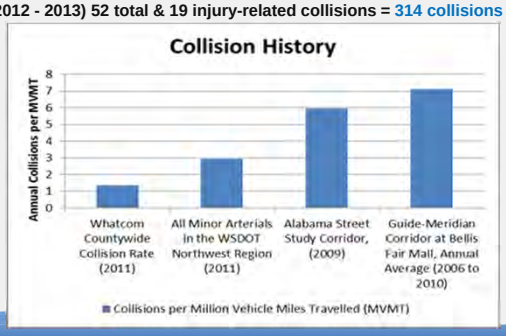
Target Zero Highway Safety Program

(2006 - 2011) 262 total & 93 injury-related collisions

(2012 - 2013) 52 total & 19 injury-related collisions = 314 collisions



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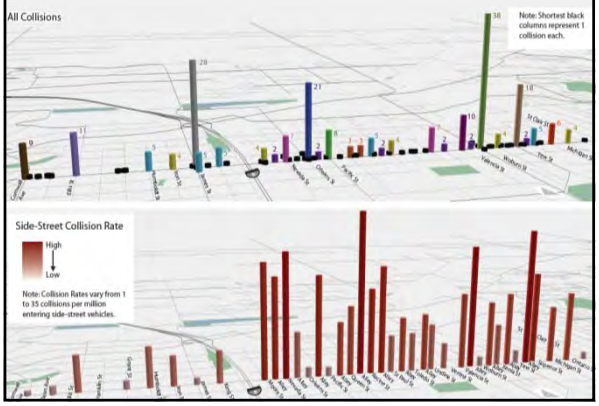
Collision distribution on Alabama corridor (2006-2011)



Study Solutions to Known Problem & Construct Safety Improvements

(Sounds like crazy-talk, right?)

- Unacceptably high number of collisions on Alabama
- $1,461,824 grant funds awarded to reduce collisions
- Highway Safety Improvement Program (federal)
- WSDOT Target Zero Goal = Reduce collisions
- Phase 1 – Feasibility Study/Alternatives Analysis
- Phase 2 – Construction of Safety Improvements

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Multi-Year, Multi-Agency Public Process

- **2011-2012 Pedestrian Master Plan** (2 Open Houses)
- **May-June 2012 – Alabama grant funds adopted in 6-Year TIP**
- **Aug-Dec 2012- Five Neighborhood Meetings**
- **February 2013 Alabama Public Open House #1**
- **2013-2014 Bicycle Master Plan** (2 Open Houses)
- **March 2014 Alabama Public Open House #2**
- **March 2014 Transportation Commission**
- **April 2014 City Council Public Hearings**
- **May 2014 Roosevelt Community Meeting to discuss C-curb**
- **June 2014 City Council vote to approve safety improvements**

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10 Alternatives Studied

1) **No action/no change**
2) **Comprehensive 4-to-3-lane "Road Diet"**
3) **Modified 4-to-3-lane "Road Diet"**
4) **Hybrid 4-to-3-lane "Road Diet"**
5) **Additional pedestrian crossings**
6) **Accommodation of parallel and intersecting "Bike Boulevards"**
7) **Strategic relocation and consolidation of WTA bus stops**
8) **Access Management: median, turn restrictions, & turn lanes**
9) **Consider resurfacing the 1.75-mile Alabama corridor**
10) **Examination of the speed limit**

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Traditional 4-to-3-lane "Road Diet"

Reallocate physical space to improve conditions for other uses

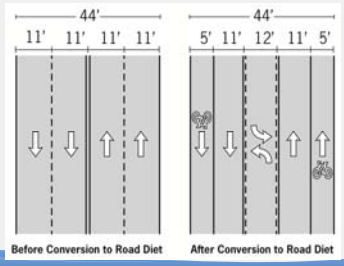
Proven method to reduce collisions; removes left-turns from travel lane

Improve traffic flow, eliminate weaving, and stops for vehicles to turn left

Generally possible up to 20,000 ADT, but also depends on pm peak at intersections

Can smooth traffic flow, but can also increase congestion

Can have negative consequences for transit service



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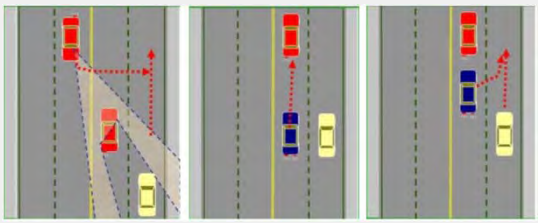
WHY study a 4-to-3-lane "Road Diet"?

Proven counter measure for reducing vehicle collisions and improving safety for other transportation users



Side-impact **Rear-end** **Side-swipe**

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WTA Concerns About Road Diet

High-frequency transit line = most productive route in WTA system

Q. What effect would 4-to-3- lane conversion have on transit service?

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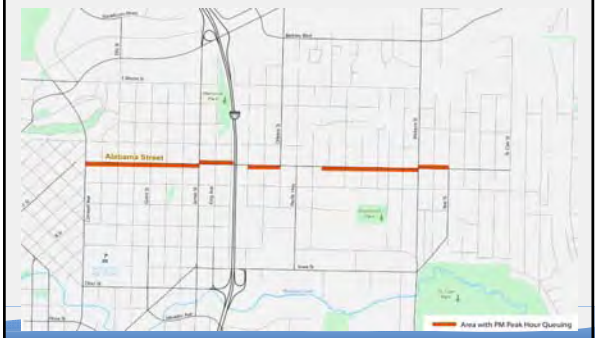
Analysis of Road Diet Variations:

1) Existing; 2) Comprehensive; 3) Modified; 4) Hybrid



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Feasibility of Road Diet Alternatives

Vehicle Level of Service (LOS) and Delay* (seconds) per Vehicle at Signals

*Delay produces negative impacts on WTA transit on-time performance

Road Diet Analysis	Major Signalized Intersections on Alabama Corridor							
Corridor Scenario	Cornwall		James		Orleans		Woburn	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
No Action - Existing Conditions	B	19	D	37	C	16	D	27
Comprehensive Road Diet (Full 1.75-miles)	F	130	F	195	F	80	F	84
Modified Road Diet (Between Major Signals)	F	102	F	180	F	162	E	58
Hybrid Road Diet (East &West Ends Only)	C	28	D	37	C	24	C	23

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Conclusion: **Install a hybrid 4-to-3-lane "Road Diet" on parts corridor, where feasible, with raised "C-curb" median and turn lanes on other parts**

West End: Cornwall to James 4-to-3 lanes with bike lanes

East End: Extend existing lane configuration from St. Clair to Superior

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Flashing crosswalks at Grant (2010) and St. Paul (2011)

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Pedestrian Hybrid Beacons

[aka High Intensity Activated Crosswalk (HAWK) signal]

Recommended for crossing 4-lanes without a center pedestrian refuge

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Alabama Corridor Crossings

5 New signalized crossings of Alabama are recommended at:

- **Ellis Street** – Install flashing crosswalk (from St. Paul) with center lane refuge
- **Grant Street** – Enhance flashing crosswalk with center lane refuge
- **Moore Street** – Install HAWK signal across 4 lanes
- **St. Paul Street** – Install HAWK signal across 4 lanes
- **Undine Street** – Install HAWK signal across 4 lanes
- **Michigan Street** – Install HAWK signal and center lane refuge

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Consolidate/Relocate WTA Bus Stops

Alabama: Proposed Stop Locations

2015 Bicycle and Pedestrian Projects in Support of 2015 Alabama Multiodal Safety Improvements

3.a. Kentucky/Nevada/Texas Bike Boulevard: Michigan to Cornwall

3.b. Undine St Sidewalks (Alabama to Texas) & Bike Boulevard (RR Trail to Texas)

3.c. St Paul St Sidewalks (Alabama to Texas) & Bike Boulevard (RR Trail to Texas)

3.d. Illinois St Bike Boulevard: Woburn to Cornwall

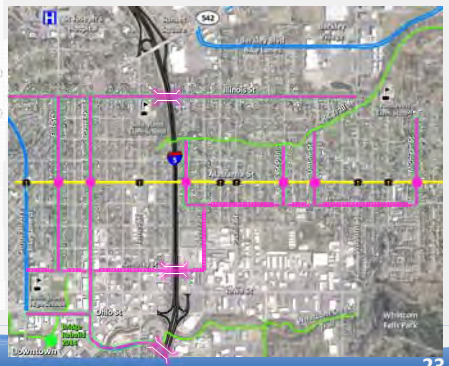
3.e. Grant St Bike Boulevard: Illinois to Ohio

3.f. Michigan St Bike Boulevard: Maryland to Texas

3.h. Lincoln/Meador/Grant/ Ohio Climbing Lane & Shared Lanes

3.i. Ellis St Bike Boulevard: Illinois to Kentucky

3.j. Moore/Texas Bike Boulevard: RR Trail to Nevada



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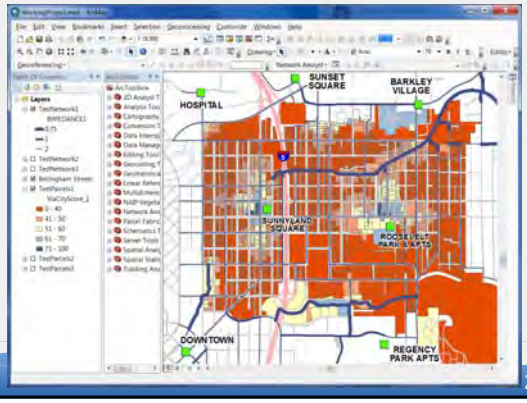
Existing Bicycle Connectivity Conditions along Alabama Corridor



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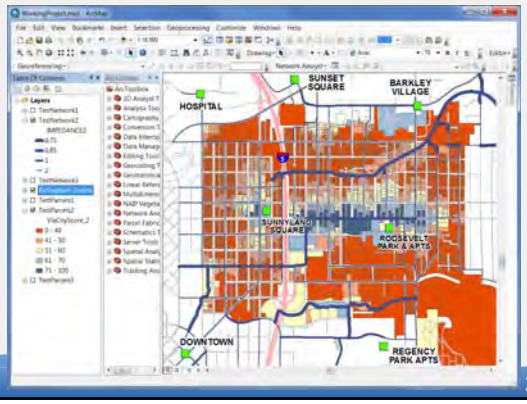
Adding Kentucky/Nevada/Texas Bike Boulevard Parallel to Alabama



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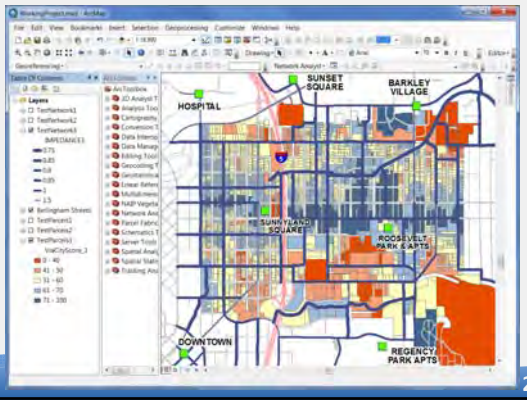
Connectivity Improvements from Bicycle Network Implementation



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Access Management

Raised "C-curb" median, turn restrictions, & turn lanes where road diet is not feasible in center section of Alabama

Existing raised C-curb median on Alabama east of James Street

27

Resurface the Alabama Corridor

- Project 1.75-miles Cornwall Ave to base of Alabama Hill
- Riddled with cracks, very poor pavement rating
- Scheduled for 2015 arterial overlay program
- Additional $1,100,000 in local Street funds

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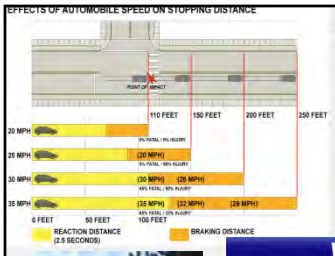


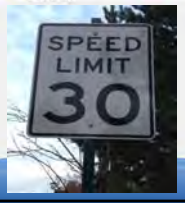
Speed Limit Reduced 35 mph to 30 mph

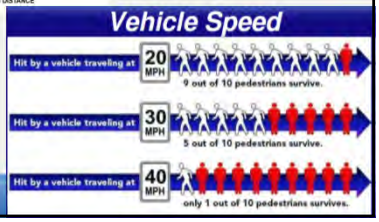
Risk and severity of injury reduced for all users when vehicle speeds are lower

Minimal increase in corridor travel time for private vehicles @ 30 seconds

Minimal impacts to transit travel time

Improves neighborhood quality of life





Public Misinformation

From May 2012 when the City announced receipt of the $1,462,000 grant funds – *to study methods to reduce vehicle collisions* – to final City Council vote in June 2014, public misinformation from inaccurate and misleading news articles, blog posts, neighborhood web sites, email comments, and local radio talk shows negatively affected and ultimately influenced the outcome of the project

Information is a powerful force – for good *and* bad

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Week Before Feb 2013 Open House #1 to Introduce 10 Alternatives Proposed for Study

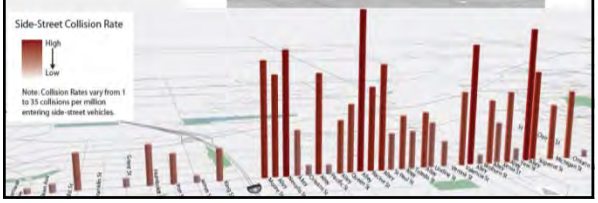
Public Protest of Raised C-curb median

Proposed for section of Alabama Street with highest vehicle collisions (I-5 to Undine), where a road diet is not feasible

Last Chance to say "NO" to the c-curb

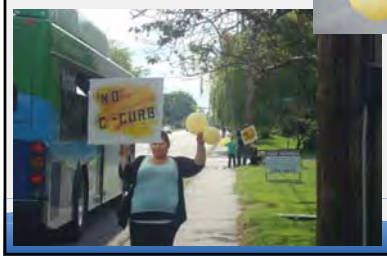
The city has a grant to improve safety on Alabama Street. In our section, they will install new pedestrian-activated crosswalks at Moore and Undine and some other improvements. However, they also propose to install a raised "c-curb" all the way down Alabama from Moore through Superior Streets.

There would be NO LEFT TURNS except at a few, select intersections.



"Roosevelt residents voiced their disapproval at a public hearing in front of the City Council in April, and at an open house at Roosevelt Elementary School on May 14. They also picketed Alabama Street during the evening commute on May 28."

Bellingham Herald, June 6, 2014



Recommended C-curb median was removed by City Council because it was unpopular, despite being a proven countermeasure for reducing vehicle collisions

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Conclusions

- ***Multimodal approach*** reduces focus on automobiles; improve safety, mobility, quality of life for all users
- Vehicle collisions will be significantly reduced on east and west ends due to ***proven safety counter-measures***
- Decisions based on public protest and popular opinion may not reduce vehicle collisions where needed most
- **Low-Cost, High Benefit:** For a total cost of **$2,562,000** the Alabama Street Multimodal Safety Improvements will completely transform 1.75 miles of this important east-west corridor through the heart of Bellingham.

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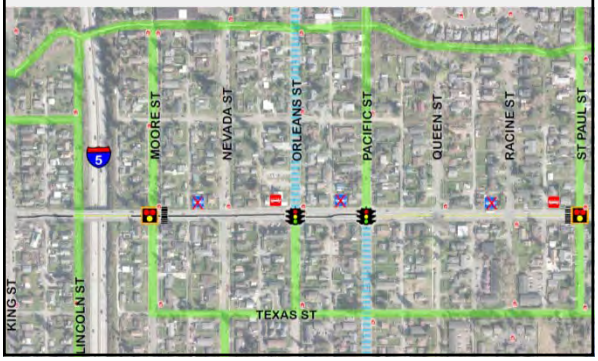
4-to-3-lane Road Diet with Bike Lanes from Dean to Iron; Retain intersection capacity

Left-turn Restrictions with Raised C-curb Median from King to Pacific across I-5



Add left-turn lane from Undine & Woburn; Raised C-curb Median from Woburn & Superior

Spot Widening to Add Left-Turn Lanes

- Widen Alabama through Valencia and Verona intersections
- Extend left-turn lane from Alabama/Woburn
- Helps Alabama/Woburn traffic congestion & transit on-time performance
- Reduces collision risk

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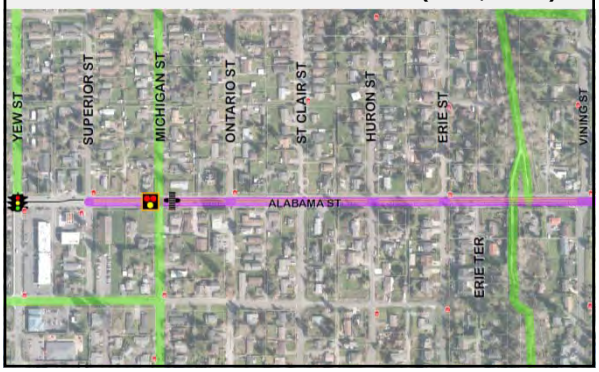
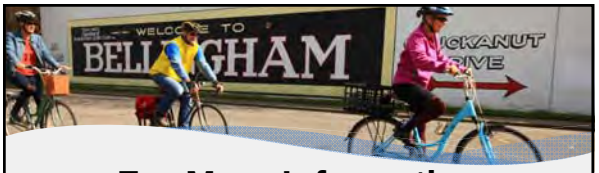
Add left-turn lane from Superior to St. Clair with rechannelization from 4-to-3 lanes (2 EB, 1 WB)





For More Information

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City of Bellingham Public Works

Downtown East-West Corridor Study

APA Washington Conference
Spokane, WA
October 16-17, 2014

Vision

A community of connected neighborhoods with vibrant urban centers - inspired by nature, powered by innovation, and committed to excellence.

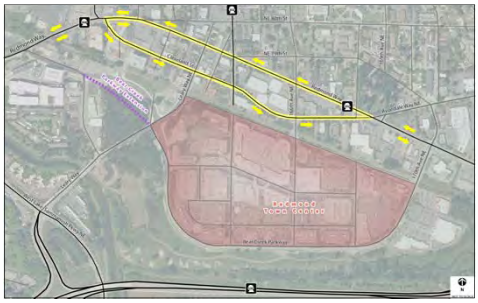
Cleveland Street (ca. 1911)

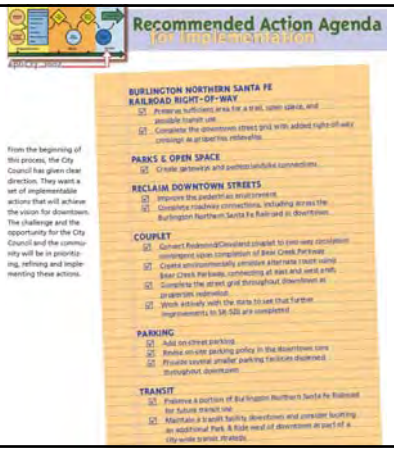
Downtown Redmond (1969)

Downtown Redmond (2009)

Redmond Way and Cleveland St One-Way Couplet (2009)

Existing One-Way Couplet





Project Principals

- Circulation
- Parking
- Travel Choices
- Parks and Open Space
- Land Use
- Great Streets
- Cleveland Street as "main street"
- Railroad Right-of-Way

Traffic Analysis

- Used the Bellevue-Kirkland-Redmond (BKR) EMME/2 Travel Demand Model to create 2030 forecasts
- Modified the City of Redmond Synchro/SimTraffic Model to simulate 2030 peak traffic operations
- Projected travel times on Redmond Way, Cleveland Street, and Bear Creek Parkway with the conversion

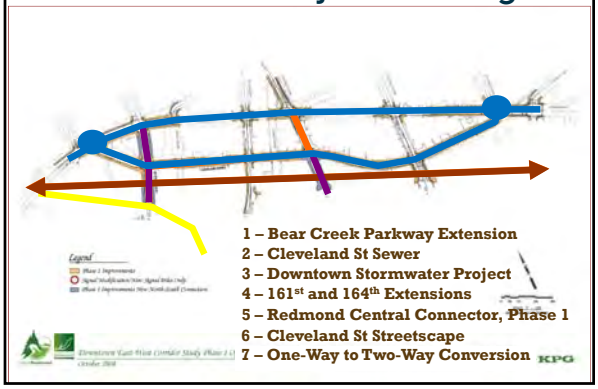
Challenges

- BKR model predicted 20 to 40 percent higher traffic volumes in downtown by 2030
- Close proximity of traffic signals in downtown
- Ends of the couplet where Redmond Way and Cleveland Street connect
- State route requirements

Questions we Considered with Couplet Conversion

- What are the facts about current travel behavior?
- What is the priority of the street?
  – regional mobility or serving local access
- Is there a viable street grid to handle two way traffic operations?
- Can you meet minimum capacity needs to prevent gridlock?
- What is the risk-reward?

Downtown Project Phasing

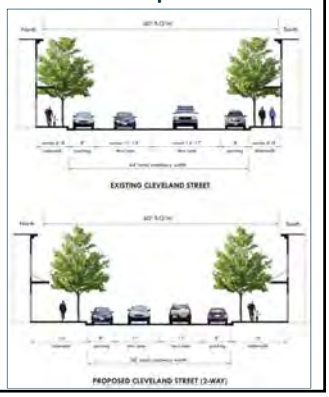


Cleveland Streetscape Design Issues

- Address all modes within existing right of way
- On-Street Parking
- Americans with Disabilities Act
- Stormwater Infiltration
- Arts and Culture
- Historic Preservation
- Communications During Construction

Cleveland Streetscape

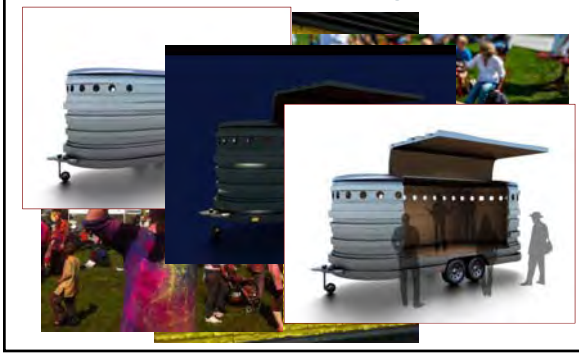
- Narrow street
- Wide sidewalks
- Bicycles share travel lane
- Parallel parking
- Reduced impact on adjacent properties
- Transit on Redmond Way



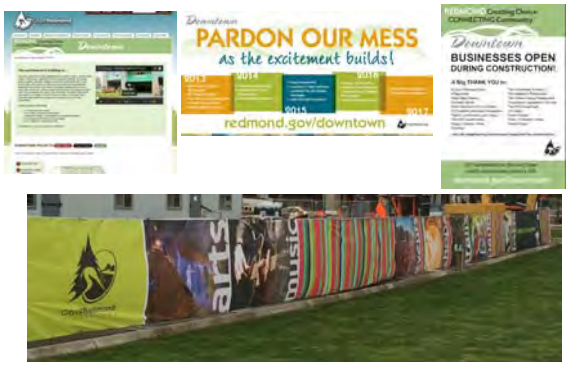
Cleveland Streetscape

Cleveland Streetscape

Downtown Cultural Corridor Master Plan and Redmond Moving Art Center



Communications



Construction Mitigation

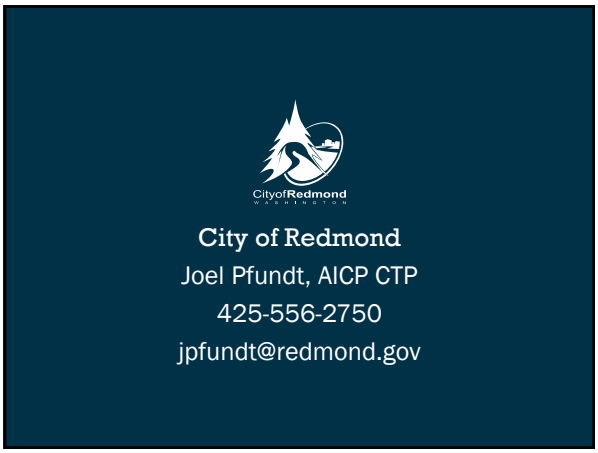
Project Updates

- SR 908 designation removed from west half of corridor
- Project received WSDOT approval in 2009
- Received grants and Public Works Trust Fund Loans
- Project construction Schedule
  - Bear Creek Parkway Extension - 2009
  - 161st Ave NE Extension – 2011
  - 164th Ave NE Extension – 2012
  - Redmond Central Connector – 2013
  - Cleveland Streetscape – Early 2015
  - One-Way to Two-Way Conversion – Early 2017

LIVE Downtown

- Over 1,000 new units in downtown completed since 2009
- Brings downtown units to about 3900 – The goal is to add about 4,500 new residents in 2,500 new units by 2030
- Affordable housing - 310 total inclusionary units, with 252 in Downtown and 58 elsewhere in the City
- Most buildings are mixed-use bringing business and jobs to downtown
- New residents are adding new life to downtown streets, parks, and businesses

The Future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