Boise’s Transportation Action Plan

New Partners for Smart Growth Conference 2018

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Today’s topics

1) Boise context

2) National and peer city context

3) The Boise TAP: an overview

4) The Boise TAP: its impact
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Boise / Population

223,154 (2016)

64% growth since 1990
City of Boise

Transportation Planning & Ideation

...SO, WHO IS IN CONTROL HERE!?
City of Boise

Transportation Planning & Ideation

Ada County Highway District (ACHD)

Project Execution, Maintenance, & Asset Ownership

...SO, WHO IS IN CONTROL HERE!?
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Changing preferences…
Hype vs. reality

A majority of people across age groups prefer mixed-use neighborhoods.

Ideal neighborhood types
People under 30 years old

Ideal neighborhood types
People 30-60 years old

Ideal neighborhood types
People aged 60+

Sources: Transportation for America survey of Millennials; “Who’s On Board,” TransitCenter, September 2014.

All images that follow are from Boise’s *Transportation Action Plan* except where otherwise noted.
Mixed-use urban centers and villages are growing faster than other neighborhood types.

67% Mixed-Use

33% Single-Family

2010 Seattle Population Increase

Source: Seattle Department of Planning and Development Decennial Census, 2000 and 2010
Millenials' preferred travel modes, 2011

- Walking, biking, or transit: 69%
- Driving: 31%

Changes in trips among 16 to 34 year-olds
National per capita trips, 2001-2009

- Bicycles: +27%
- Walking: +15%
- Trucks: +4%
- Cars: -15%

Source for above two charts: U.S. Public Interest Research Group’s 2014 report, Millennials in Motion.
HOW MANY PROTECTED BIKE LANES ARE THERE IN THE U.S.?

SINCE 2009, PROTECTED BIKE LANES HAVE DOUBLED EVERY 2 YEARS

Source: Green Lane Project
Population and number of jobs increased while cars entering the city decreased.

Source: City of Vancouver estimates based on screenline counts and census information. Change in population & job numbers have been rounded to the nearest 1%, and screenline counts to the nearest 5%.
Changes in mode share, all trips by Boulder residents

- Car, 1 occupant: -15%
- Car, 2+ occupants: slight decrease
- Walk: no change
- Bike: +75%
- Bus: +300%

Source: City of Boulder Modal Shift Reports (Travel Diary of Boulder Residents).

Bus trips and bike trips have increased in Boulder, CO while car trips have decreased.
Only one third of suburban residents can conveniently walk to a grocery store.

60% of Boise residents aged 65-79 will have poor access to transit in 2015.

Source: Transportation for America’s 2011 report, "Aging in Place - Stuck without Options: Fixing the Mobility Crisis Facing the Baby Boom Generation."
22 MIN. OF WALKING

DAILY WALKING TIME
Recommended by CDC

19 MIN. OF WALKING

MEDIAN TRANSIT USER
in America

06 MIN. OF WALKING

AVERAGE PERSON
in America, includes drivers

**Decision**

Transportation and Land Use Planning Decisions

- Parking Spaces, Bike Lanes, Road Width, Housing Locations

**Individual Choices**

Auto Trips Generated

- Versus trips via public transit, walking, biking

**Combined Effects**

**Regional: VMT Per Capita**

Regional Air Quality
Greenhouse Gas Emissions
Time Spent Driving

**Local: Traffic Volumes**

Air Quality: Local Hot Spots
Noise Levels
Livability, Social Cohesion
Pedestrian And Bike Quality And Safety

**Health Impacts**
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This plan provides a vision for what Boise’s transportation system could be...

...based on Boise’s shared values for a high quality of life...

...focused into six catalytic moves or actions that prioritize the city’s work ahead...

...which will need tools and best practices to be realized.
“Boise has indicated a desire... for a connected Treasure Valley that provides safe and efficient facilities for pedestrians, bicycles, vehicles and transit.”

- Blueprint Boise
One city, many Place Types
This map illustrates four ‘place types’, that were determined by analyzing the travel behavior of Boise residents and correlating it to the physical characteristics of their neighborhoods.
Downtown

Focus: Walking and biking
With its walkable, human-scaled street grid, historic buildings, and diverse civic life, Boise’s downtown has the bones of a vibrant community and regional center. With such a high density of jobs and commuters, it is important to enhance alternatives to driving.

Mixed-use corridors

Focus: Transit-oriented development
Mixed-use corridors are characterized by frontages on commercial arterials with large parking lots separating the buildings from the street. Multiple driveways increase conflict points between cars, pedestrians, and bicycles and high speeds decrease safety for all users. Opportunities exist for infill development within parking lots, and the addition of dedicated transit lanes to the street.
Compact neighborhoods

**Focus: Safety and livability**
Compact neighborhoods have the highest household density of all place types and typically, a walkable, human-scaled grid. Many streets lack sidewalks, and have room to add them or be slow, safe streets that do not require sidewalks on both sides. These neighborhoods support a high density of active commuters, and it is important to support their safety.

Suburban

**Focus: Support Active mobility**
Low-density suburban neighborhoods usually do not offer multiple “real” mobility options: the only viable mode for most journeys is the automobile. However, arterials present an opportunity to provide a minimum grid of low-stress bike facilities, walking paths, and sidewalks that connect to the city and regional network.
Vision for Mobility
(Where we want to go)
We envision a city where all people enjoy real transportation choices that offer safety, optimize infrastructure, and support vibrant neighborhoods.
Mixed-use corridors

- **Pedestrian Connections**: From streets to destinations
- **Bike Parking**: Near destinations
- **Access Control**
  - Consolidate driveways to 200' on-center and delineate with plantings
- **Active Storefronts**: With windows, shade, furniture
- **Infill**: At corners and to screen parking
- **Frontage Engages Street**: With active uses, such as plazas and storefronts
- **Bike Signals**: Near and far sides
- **Use Surface Lots**: For interim design that activates the street frontage
- **Frequent Mid-Block Crossings**: To break up long blocks and add ped-operated signals at least every 500 ft
- **Bike Lanes**: Raised on both sides
- **Planted Median/Left-Turn Lane**
- **Far-Side Bus Stops**: With shelter and plantings
- **Delineate Edges**
  - With plantings
- **Continue Bike Lanes**
  - Through intersection with dashed borders
Compact neighborhoods

- **Sharrows**
- **Chicane**
- **Permeable Paving** in parking lanes
- **Bulb-outs** with storm-water planters
- **Slow Street Signs**
Suburban

- Buffered Bike Lane is an option
- Sharrows on connecting streets
- Bulb-Outs on connecting streets reduce corner radius
- Raised Shared Path: Gravel / Decomposed Granite
- Shade Trees on south and west sides
- Shared-Use Path Sign
- Crossing Warning Lights
- Ped-Operated Signal Buttons
- Shared Bike/Ped On-Ramp
Actions

(How we get there)
1 Safety for All

2 Walk and Bike to the Store

3 Low-Stress Bike Network

4 Active Routes to School
5 Park Once

6 Three Best-In-Class Transit Routes
Infrastructure

Focus Areas: Roads within the Pedestrian and Bicycle High-Injury Network (see map on facing page).

- Add pedestrian safety improvements to dangerous intersections such as pedestrian bulb-outs, continental crosswalks, pedestrian scrambles, advance stop bars, Rapid Flashing Beacons, High-Intensity Activated Crosswalks (HAWK Signals) for suburban arterials. Change signal timing to give pedestrians enough time to cross.

- Add protected bike infrastructure based on recommendations for the Low Stress Bike Network (Move 5).

- Add bicycle intersection treatments such as signal timing, designated striping zones, turn lanes, bike boxes. Add warning lights that detect cyclists and warn motorists in advance.

- Implement traffic calming and access management strategies such as low-speed zones, road diets, and lane-width reductions. In low-traffic areas implement speed bumps, chicanes, and diversions. Consolidate driveways. Convert one-way streets to two-way streets.

Programs

1. Monitor, collect, and publish data to track progress towards objectives.

2. Produce a map of high-injury locations and use it to prioritize projects.

3. Evaluate the impact and safety for all modes when considering increases to roadway capacity.

4. Implement a document that provides safety design guidelines including speed limits, average daily traffic targets, spacing of pedestrian crossings on arterials, etc.

5. Establish a Safety for All Committee and inter-agency task force with teams from Planning, Transportation, Public Works, first responders, etc. to engage the public and track progress in achieving goals.

6. Establish enforcement programs for police to target traffic violations that result in injury or death.

7. Provide road safety training for all modes (including bus drivers) on sharing the road. Provide education on the Idaho Stop Law as a part of safety education for drivers and cyclists.

8. Adopt the Vision Zero Framework to integrate hardware and software initiatives.
Focus: Pedestrian & Bicycle High-Injury Locations

Road segment with weighted injury sum* $\geqslant 5$.

*The weighted injury sum of a street segment is the sum of all pedestrian and bicycle collisions that occurred on the segment, with Severe and Fatal injuries weighted by 3.

The threshold weighted injury sum value of 5 was used to select the high-injury locations. A threshold of 5 selects 24% of lane miles that account for 55% of total pedestrian and bicycle collisions in Boise.

Data is from years 2005 - 2015.

1/4 of Boise's street length accounts for 1/2 of bicycle and pedestrian collisions.
Metrics

How the streets change:

- Improved safety infrastructure for arterial crossings within walking and biking distances of schools.
- Low-stress bike infrastructure built on all arterials within 1/2 mile of schools (see Move 5).

How people’s behavior changes:

- Increased number of students walking and biking to school.
- Reduced traffic congestion.
- Reduced travel times to school due to decreased traffic.

Long Term Impact

All students can safely walk and bike to school. Arterials near schools are safe for all modes. Health and wellbeing of students is improved across Boise.
Mobility Toolbox

(Tools for moving forward)
1. Expand Measures of Street Quality
2. Connecting Mobility Values to Metrics
3. Create Great Places
4. Expedite Change with Interim Design
5. Increase Mobility Access
6. Benefits of Shared Mobility
7. Apply Current Best Practices in Street Design
8. Street Design Reference Manuals
9. Adopt a Prioritization Framework
10. Prioritizing Projects Aligned with the City's Values
FUNCTIONS OF A STREET

TRANSPORTATION
- Motor vehicles
- Transit
- Walking
- Biking
- Freight

PLACEMAKING
- Economic Vitality
- Social Vitality
- Civic Vitality

INFRASTRUCTURE
- Urban Forests
- Utilities
- Stormwater
Vehicular Level of Service only looks at one aspect of a street’s functions.
1. Make narrower lanes for safer roads

- On urban streets, lane widths of 10 to 10.5 feet have been shown to be safer than wider lanes, with no measurable decrease in traffic capacity and throughput.
- Narrower lanes create safety benefits by serving as traffic-calming elements that discourage speeding and decrease crashes.
- Narrower lanes also make space available for other uses, such as wider sidewalks and bike lanes, while reducing pedestrian crossing distances.
- Citywide, use a 10’ width for travel lanes; on streets with frequent bus or truck traffic, use an 11’ width for the outermost travel lane and 10’ for inner travel lanes.

2. Design for a 20 mph or 25 mph target speed, not for a higher speed limit

- Urban streets should neither explicitly allow nor implicitly encourage excessive speeds.
- Design streets in Downtown, as well as local residential streets, with a target speed and speed limit of 20 mph.
- Design all other streets, other than limited access roadways, with a target speed and speed limit of 20 mph or 25 mph.
3. Manage turning conflicts through proactive, safe design

- Implement smaller corner radii to slow turning vehicles.
- Remove dedicated right-turn lanes (which increase pedestrian crossing distance and provide fewer benefits than left-turn lanes) unless absolutely necessary.
- Do not design streets with free-flow turn lanes (or “slip lanes”) because they encourage fast turns, are detrimental to pedestrian safety, and are unfriendly to pedestrians.

4. Normalize intersections and minimize crossing distances

- Urban intersections should be designed for low speeds and walkable conditions.
- Design intersections to minimize the number of legs, “square” them so turns are as close to 90 degrees as possible, and minimize crossing distances through installation of sidewalk extensions and median islands.
- On all streets with a curbside parking lane, include curb extensions at corners.

5. Provide high-quality pedestrian accommodation

- Provide marked pedestrian crossings at all intersection legs except where completely infeasible.
- Include raised medians or median islands at intersections on 2-way streets with 4 or more moving lanes, wherever possible.
- Widen sidewalks where existing sidewalk width is generally too narrow (less than 5 feet) or unable to effectively serve existing pedestrian volumes in downtown or commercial areas.
<table>
<thead>
<tr>
<th></th>
<th>Resource</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>NACTO: Urban Street Design Guide (2013)</td>
<td>Comprehensive toolbox for street design, including sample cross sections and plans, definition of design strategies, and design controls. Supported by USDOT, as referenced in July 25, 2014, FHWA guidance on &quot;Design Flexibility for Pedestrian and Bicycle Facilities.&quot;</td>
</tr>
<tr>
<td>3</td>
<td>NACTO: Transit Street Design Guide (2016)</td>
<td>Detailed guidance on the design of transit lanes and transitways, stations and stops, intersections, and system-wide approaches to improving on-street transit performance, all in the context of the principle that urban transit streets are linear public spaces.</td>
</tr>
<tr>
<td>4</td>
<td>FHWA: Separated Bike Lane Planning + Design Guide (2015)</td>
<td>Comprehensive guide to separated bike lanes (cycle tracks) with design guidance on directional and width characteristics, forms of separation, midblock considerations, intersection design, and signs and markings. Includes lessons learned from case studies nationwide.</td>
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A palette of interim design projects
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The TAP provides…

- Land use principles
- Mobility principles
- Project prioritization
- Communications piece

Ada County Highway District (ACHD)

Project Execution, Maintenance, & Asset Ownership
“You are taking something human scale and putting in something scaled for automobiles. That seems contrary to what the city values.”

Boise has more than doubled in size since 1980, and the growth is luring in chain retailers. // Boise Metro Chamber of Commerce/Flickr

Booming Boise Picks a Fight With CVS
CVS vs Boise: Boise wins!

- Significant community opposition (to parking waiver) resulted in removal of application
  - Attempted to increase parking in C-2 zone despite a Downtown-adjacent “Compact Neighborhood” place designation
- Ripple effect on entities trying to exploit holes in the zoning code. TAP provides clarity.
- But not a permanent solution: The TAP is partially a land use plan, but enacting changes in the zoning code itself is still needed.
Focus: Premium Service Routes

Long Term Impact

Three routes that attract choice riders, connect Boise’s neighborhoods to the larger region, and provide a strong case for greater funding and expansion of VRT.
Best in Class Transit: State St BRT

• Biggest focus since 2016 TAP release
• State Street BRT in advanced planning, with ACHD starting to build out stations and intersection improvements
• TAP transit “Move” has motivated Boise City Council to come up with additional funds for VRT to supplement service frequency
• TAP created the “leg to stand on” for funding outside the general fund
  o $1 million/year allocated, on only $7 million typical operating budget: 14% increase
Adopt a prioritization framework

Step 1: Identify Projects of Significant Capital Investment

Step 2: Score Capital Projects based on Values, Moves, and Long-term vision for Boise

Step 3: Rank based on score and cost-effectiveness
How Boise Prioritizes Transportation Projects

Funding is limited. This is how we prioritize projects.

1. Transportation projects come from many sources. Project ideas can come from citizen input, recommendations by the Planning Department, or as part of realizing Boise's other planning frameworks. The Planning Department collects all potential projects, briefly describes their scope, and holds them to be evaluated internally.

2. Is it a capital project? A pool of potential capital projects is kept by the city. Because Boise's street network and is built and maintained by Ada County, only capital (construction) projects are prioritized for referral to the County for implementation. Other programs can be administered directly by the City.

3. Does it meet Boise's values? The first stage of prioritization scores potential projects based on how well they meet Boise's mobility values as expressed in the IAP. Projects can score between 5 and 10 points on these five criteria.

4. Does it support the moves? Projects that have scored well on Boise's mobility values are tested to see if they also support one or more of the six Moves. Projects score higher if they fulfill multiple Moves.

5. Is it aligned with Boise's planning frameworks? All projects that support Boise's mobility values and fulfill one or more Moves must also comply with the planning frameworks governing development in Boise. Only qualifying projects move to the final stage.

6. Projects are ranked by merit. An initial list ranks the best projects irrespective of cost. This allows the City to consider long-range priorities, phasing, and fundraising possibilities.

7. Rankings are adjusted by cost. Projects are then re-ranked based on available budgets in the current funding cycle. Projects may be broken into phases or combined to make them feasible, or delayed until funding is available.

8. City recommends its ranking to partner agencies for implementation. The City provides its project rankings, scopes, and objectives to the implementing agency, usually Ada County Highway District (ACHD) or Valley Regional Transit (VRT).

CITY OF BOISE
Department of Planning
Scoring Example: Emerald - Orchard St. to Americana

The project involves a road diet and addition of painted buffered bike lanes on both sides. It will fill gaps in the sidewalk network, provide Americans with Disabilities Act improvements, upgrade pedestrian crossings, upgrade traffic signals, and add continuous overhead lighting. The #5 VRT Route travels through mixed-use corridors and compact neighborhoods along this corridor. There are two schools within a 1/2 mile of the project.

**Mobility Values**

35 / 76

- All People
- Real Choices
- Safety
- Optimize Infrastructure
- Vibrant Neighborhoods

**Why this score?**
The project expands transportation options by providing an enhanced bike connection and improved sidewalks. The project increases mobility choices, and enhances safety while making use of the existing road infrastructure.

**Mobility Moves**

8 / 24

- Safety for All
- Walk and Bike to the Store
- All Ages Bike Network
- Active Routes to School
- Park Once
- Three Best-In-Class Transit Routes

**Why this score?**
The project contains bike infrastructure that meets All Ages standards within a 1/2 mile of schools and within 1/2 mile from an Activity Center. While the project includes safety measures, it did not get additional points under the Moves, because it is not located near a high-injury hotspot.
Challenges Moving Forward

- Following through on urban-style development in activity centers (avoiding low-density, auto-centric waivers!)
- Achieving a critical mass of transit riders to justify major system investment
- Changing cultural expectations around "traffic" to support reallocation of street space: traffic sometimes just means growth
- Additional dedicated City funding to better dictate projects? How?
Partners Needed to Achieve TAP

++ Other Private Investment Partners
Thank you!

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