

STREETS IMPROVEMENT PROJECTS:

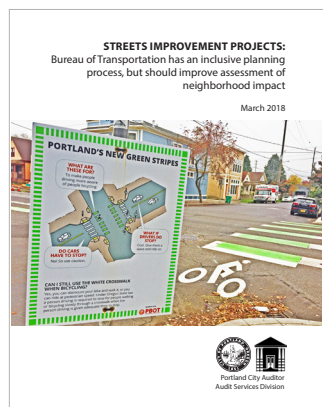
Bureau of Transportation has an inclusive planning process, but should improve assessment of neighborhood impact

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Portland City Auditor
Audit Services Division

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STREETS IMPROVEMENT PROJECTS:

Bureau of Transportation has an inclusive planning process, but should improve assessment of neighborhood impact



Summary

The Portland Bureau of Transportation designs and constructs projects to improve streets for pedestrians, bicycles and vehicles. This audit reviewed two recent projects to assess the Bureau's planning and evaluation process. We found the Bureau met expectations for the planning phase but its evaluation of project effectiveness needs improvement.

We recommend the Bureau develop and fund a consistent evaluation process that includes livability and neighborhood impact assessments and use the results to inform the City's transportation plans.

Background

City's planning process sets goals for modes of transportation

The City Council set goals that prioritize biking, walking and using public transport over people driving alone. These goals were prompted by forecasts that predict a growing population and the pressure the City is under to make sure goods and people can move efficiently from one place to the next given the existing street system. To achieve the goals, the Bureau of Transportation's strategy is to design and build projects to accommodate a variety of travel choices.

The City's goals are outlined in the Transportation System Plan. In addition to goals related to prioritizing certain modes of transportation such as public transit and bicycling, the Bureau also includes in the Transportation System Plan livability related goals such as access to jobs, schools, grocery stores, and health care, and supporting economic development. This plan is developed and periodically updated using feedback from residents and stakeholders, and supports the City's Comprehensive Plan, which guides the City's land development and infrastructure projects, and stresses the development of multi-modal transportation options.



PORTLAND COMPREHENSIVE PLAN 2035

Goals and policy guidelines
Focus on multimodal transportation system



TRANSPORTATION SYSTEM PLAN

Goals

- Safety
- Cost effectiveness
- Great places
- Environmentally sustainable
- Equitable transportation
- Positive health outcomes
- Opportunities for prosperity
- Funded & maintained system
- Sustainable airport

Bicycle Plan
2030

Pedestrian
Master Plan

Freight
Master Plan

Neighborhood
Area Plans

Other Plans
or Policies



PROJECT GOALS

Examples: East Burnside | Southeast Division

Using the goals and related strategies outlined in the Transportation System Plan, the Bureau develops plans specific to different modes of transportation, such as the Bicycle or the Freight plans, and uses them to guide the prioritization and selection of transportation projects. Development of these plans includes extensive public and stakeholder involvement, which in turn informs future revisions of the Transportation System Plan.

Once the Bureau selects projects, it establishes specific goals for each, such as decreasing crashes by reducing speed and traffic volume, and increasing pedestrian safety. These project goals and street designs are intended to be developed with public input to support the City's larger transportation goals.

Because projects face different design challenges, geographic locations, and neighborhood priorities, each project has specific objectives to meet the neighborhood transportation and livability needs. Planning best practices encourage that input of community members and stakeholders affected by a transportation project be included in the planning, design and evaluation process.

Audit Results

Project planning uses transportation system goals and incorporates community feedback

We selected two projects, East Burnside Street from Southeast 15th Avenue to Laurelhurst Place, and Southeast Division Street from 60th to 80th Avenue, to review the projects' planning and evaluation processes. These projects were selected because Transportation expected them to deliver improvements that were important to residents and businesses, and support the Transportation System Plan goals and related safety issues.

We found that both projects included goals that supported the Transportation System Plan strategies, and the bureau used a public outreach process to communicate with stakeholders affected by the new traffic features and designs. Project managers and engineers included the public's input to guide specific project goals and the design of traffic features, and the public was given the opportunity to provide opinions on different design options.

For the East Burnside project, the Bureau made pedestrian safety improvements to a stretch of the busy corridor to reduce the number of traffic crashes, particularly pedestrian crashes, and improve pedestrian access. Project managers conducted numerous public meetings during the planning and design phase where they provided information to residents and stakeholders about the project goals and expected traffic improvements. This information was then used by project engineers to complete the final street designs. For example, the Bureau's public meetings included asking residents and stakeholders what pedestrian safety improvements they preferred. Different design options were presented, such as converting one car lane into a turn-only center lane versus adding curb extensions with overhead flashing beacons to increase pedestrian safety.

The Southeast Division planning process also included public and stakeholder input to guide the design options and street improvements. Project engineers used this feedback to develop the final street designs. Project managers also conducted outreach to neighborhood associations and attended public meetings to provide project updates.

**Some project outcomes
are evaluated, but
assessing effects on
neighborhoods should
be improved**

After implementing projects, the Bureau evaluates associated traffic data, such as the number of cars or bicyclists using the improved streets, the number of car related crashes, or changes in travel time for cars. However, for livability goals such as supporting local businesses or community development, it is not always clear whether the goals were accomplished or how the project changed the neighborhood, including any unintended consequences.

East Burnside

The Bureau made safety and pedestrian access improvements to East Burnside Street from Southeast 15th Avenue to Laurelhurst Place. The goals were to make this stretch safer for all users by reducing the speed limit from 35 miles per hour to 30, improve pedestrian cross-

ings, provide pedestrian access to public transit, and support the local emerging business district. The design for this project included various pedestrian features, such as crosswalks and islands, and converting one westbound lane into a center turning lane.



After the project was completed, project engineers measured the volume of cars, compliance rate with speed limit, and obtained data on crashes. The data showed that safety goals were met – one year after project completion crashes for all transport modes were reduced by 4 percent and there were no pedestrian- or bike-related crashes. While average weekday traffic volumes have increased by only 2 percent, morning peak time volumes westbound have decreased by about 14 percent. This may indicate that cars were using

alternate routes, and there was some evidence that traffic was being diverted with drivers using nearby streets instead of Burnside. The traffic data evaluation showed that Northeast Couch Street experienced traffic diversion from East Burnside, where peak traffic volumes on Couch increased by 117 percent.

In this project, the Bureau met the goals to make this part of East Burnside safer for all users and provide access to public transportation, but it is not clear whether this project may have affected local businesses and residents. It would be important to know if they were adversely affected by the diversion of cars to adjacent streets. Project managers are planning to conduct a survey of businesses to obtain anecdotal information for this project.

Southeast Division

The Transportation Bureau made safety improvements to Southeast Division Street from Southeast 60th Avenue to 80th Avenue. Division Street is designated as a high crash corridor, which are streets



with high concentration of crashes and a disproportionate number of fatalities. The project goal was to reduce the number of crashes and improve pedestrian safety, while maintaining car traffic flow. Goals for Division Street also included adequate vehicle and truck access to local businesses and residences.

During the two years after the project was completed, traffic data showed the project's safety goals were met. Traffic crashes decreased by 50 percent, and the number of cars that were speeding fell by 56

percent. There were no bike related crashes and no evidence of traffic being diverted to side streets.

Part of the goal for the Southeast Division corridor was to maintain access to local businesses and residents, but how the local neighborhoods were affected by the project changes was not assessed.

As these two projects demonstrate, the Bureau uses measures to evaluate traffic safety and usage outcomes to determine whether some project goals were met, but had not developed indicators to measure livability outcomes. Determining how a project affected the neighborhood - such as whether businesses experienced an impact on their operations, what changes residents had to make to their commute, or how they accessed local shops and schools - may require management to commit resources to broader evaluation.

Measuring the changes in usage for various transportation options helps assess how projects are contributing to the city's goals as outlined in the Transportation System Plan and related policies and guidelines. However, evaluating livability or economic development goals will provide a more comprehensive assessment of projects outcomes. It will also inform the City's transportation planning process when updating the Transportation System Plan and selecting future projects.

Recommendations

To better achieve its goals through its street improvement projects, we recommend that the Bureau of Transportation:

1. Develop and fund a consistent evaluation process that includes livability and neighborhood impact assessments
2. Use the results from project evaluations to inform the City's future transportation plans and priorities.

Objective, scope, and methodology

By reviewing selected transportation projects, the objective was to assess the planning, purpose, and evaluation process for street improvements, and to identify challenges in implementing planned projects.

To accomplish our audit objective, we:

- Reviewed City of Portland transportation policies and rules
- Interviewed Portland Bureau of Transportation management, engineers, project managers
- Reviewed the City's transportation plans and goals
- Researched state laws relating to multimodal transportation
- Researched best practices on traffic and street improvement planning and design
- Out of a list of 14 projects that included various modes of transportation, different geographical locations, and were completed between 2010 – 2015, selected two projects and reviewed planning, design, construction and evaluation.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

RESPONSE TO THE AUDIT



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Dan Saltzman Commissioner **Leah Treat** Director

March 13, 2018

Mary Hull Caballero
City Auditor
1221 SW Fourth Ave, Room 140
Portland, OR 97204

Dear Auditor Hull Caballero:

Thank you for the opportunity to review and respond to the Multimodal Streets audit report.

As the audit notes, the Portland Bureau of Transportation (PBOT) has documented significant improvements in traffic behavior and roadway safety through recent projects including the two that were highlighted in the report. PBOT has also observed an increase in bicycling and walking mode share in areas where we have invested in streetscape, cycling comfort and safety infrastructure. These locations have also experienced reinvestment in properties and storefronts that improve the attractiveness of our business districts and nearby residents' access to goods and services.

The audit report recommends that PBOT develop and fund a more consistent evaluation process that includes livability, economic outcomes, and neighborhood impact assessments. PBOT agrees that our project delivery process would benefit from additional measurement and evaluation practices.

There are models of informative analyses of the type you recommend. For example, Portland Streetcar has improved its evaluation and reporting of livability and economic development impacts. Starting in 2015, Portland Streetcar's annual report includes housing units, affordable housing units, permitted housing units, jobs and real market value of properties along the route.

We are taking steps to increase our ability to implement similar practices in PBOT project evaluation. In the past year, the bureau has added additional positions that will help us increase these activities. Within the Business Services Group, we have created an Office of Strategy, Innovation and Performance. The development of improved project performance and evaluation metrics are part of their assigned activities but have not yet been formalized. This team currently has added two staff to date and is finalizing the hiring for a third.



The Portland Bureau of Transportation fully complies with Title VI of the Civil Rights Act of 1964, the ADA Title II, and related statutes and regulations in all programs and activities. For accommodations, complaints and information, call (503) 823-5185, City TTY (503) 823-6868, or use Oregon Relay Service: 711.

In addition, PBOT recently added a Vision Zero Data Analyst position in our Policy Planning and Projects group to improve our evaluation of crash and overall safety and comfort performance data. This work will assist in project identification and scoping of improvements as well as evaluate improvements after they are implemented.

We will work to improve our understanding of the livability and economic development impacts of our projects.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Leah Treat', with a stylized, cursive script.

Leah Treat

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Street Improvement Projects: Bureau of Transportation has an inclusive planning process, but should improve assessment of neighborhood impact

Report #487, March 15, 2018

Audit Team: Alexandra Fercak

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Mary Hull Caballero, City Auditor
Kari Guy, Director of Audit Services

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