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Performance management is an approach to transportation planning that has received increased national and regional attention in recent years. In the most basic sense, performance management consists of using performance data to support decisions to help achieve desired transportation policy and investment outcomes. Because desired outcomes vary from agency to agency, performance management requires a personalized approach for each agency in order to be effective.

This report is a forward step in Wilsonville’s effort towards improved management and performance of its transportation system. It presents a Transportation System Performance Monitoring and Reporting Program in response to a recommendation from the 2013 Wilsonville Transportation System Plan (TSP) update.

The 2013 TSP outlines the City’s vision and goals for its transportation system. It also provides standards, projects, and programs that, when put into action, are intended to improve the City’s transportation system in a manner consistent with its vision and goals.

What does improvement mean and how can the City know whether its planning efforts are leading to desired outcomes?

The goal of performance management is to answer this question. Currently, the TSP identifies five model-based performance measures that will be revisited at each successive TSP update. However, these measures reflect future modeling assumptions rather than existing measured observations. While helpful for long-range planning, this approach leaves a gap in understanding the actual outcomes being experienced by the traveling public.

The new performance measures identified in this report closely align with both the City’s transportation goals and collected traffic data. By monitoring these measures on a bi-yearly basis, the City will better track how well its planning efforts are leading to the desired outcomes. By setting a baseline at a citywide level, and re-evaluating these important questions over time, the performance measures will also help evaluate and characterize the impact of private developments.

Performance management will result in new insights that can provide additional perspective to decision-makers and help result in an improved transportation system.
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The performance measures in this report are best understood against the backdrop of Wilsonville’s location and demographics. Wilsonville is located on the southern edge of the Portland Metro area along the Interstate-5 corridor. Because of the nearby I-5 bridge over the Willamette River, Wilsonville serves as the region’s southern gateway and is a strategic connection between the Portland Metro Area to the north and the Mid-Willamette Valley to the south. Due to its strong employment base and central location, it attracts employees from all over the region.

Sources: MetroMap (http://gis.oregonmetro.gov/metromap) and Wilsonville Chamber of Commerce
For the past 10 years, Wilsonville has been one of Oregon’s fastest growing cities. With over 22,000 residents and 19,000 full- and part-time jobs, Wilsonville is an attractive place to live and work. However, with growth comes increasing transportation demands for all travel modes, and it is essential to ensure the multimodal transportation system can serve the current and future residents, employees, and visitors who frequent the city. Understanding who these users are facilitates improved transportation decisions.
Ten new transportation system performance measures have been identified for the City of Wilsonville and are listed in the table below along with corresponding objectives. The measures align with the City’s seven transportation goals and are focused on outcomes experienced by the public as they travel throughout Wilsonville. These measures are intended to be monitored on a bi-yearly basis to help City decision-makers better understand how the transportation system is performing and the impacts of their decisions. In this report, each measure is analyzed in detail for the past 5-10 years based on available data.

**Transportation System Goals and Performance Measures**

<table>
<thead>
<tr>
<th>TSP Goal</th>
<th>Measure</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Safe</td>
<td>Fatal and Serious Injury Collisions</td>
<td>Eliminate traffic fatalities and serious injuries (Injury “A”) on City roadways</td>
</tr>
<tr>
<td>2. Connected and Accessible</td>
<td>Multimodal Connectivity</td>
<td>Provide residents with multimodal access to parks, schools, employment centers, retail areas, and the surrounding region</td>
</tr>
<tr>
<td>3. Functional and Reliable</td>
<td>Intersection PM Peak Hour Delay</td>
<td>Maintain acceptable level of delay (less than 55 seconds average per vehicle, or maximum Level of Service D) at key intersections</td>
</tr>
<tr>
<td></td>
<td>Travel Time Reliability</td>
<td>Maintain or improve travel time reliability on key arterials.</td>
</tr>
<tr>
<td></td>
<td>Freight Travel Time Reliability</td>
<td>Maintain or improve freight travel time reliability on key arterials.</td>
</tr>
<tr>
<td>4. Cost Effective</td>
<td>Pavement Condition</td>
<td>Maintain good pavement conditions that help reduce more costly repair expenses in the future</td>
</tr>
<tr>
<td>5. Compatible</td>
<td>Cross-Section Compliance</td>
<td>Ensure Wilsonville’s multimodal transportation corridors include adequately designed facilities to serve all intended users</td>
</tr>
<tr>
<td>6. Robust</td>
<td>Transportation Mode Share</td>
<td>Accommodate transportation choices for drivers, pedestrians, bicyclists, and transit riders</td>
</tr>
<tr>
<td>7. Promotes Livability</td>
<td>Positive Citizen Survey Response</td>
<td>Improve or maintain citizen satisfaction with the City's transportation facilities and services</td>
</tr>
<tr>
<td></td>
<td>Health Conditions/Healthy Lifestyles</td>
<td>Provide transportation facilities that encourage active transportation, reduced greenhouse gasses, and improved health of residents</td>
</tr>
</tbody>
</table>
**Goal 1:** Safe

**Objective:** Eliminate traffic fatalities and serious injuries (Injury “A”) on City roadways

In the last 10 years, 39 crashes resulted in 48 fatalities or serious injuries. The trend is generally decreasing as desired.

Safety is Wilsonville’s first transportation system goal. It is also a national priority, and agencies across the country are participating in “Vision Zero” or “Towards Zero Deaths” campaigns with the objective of eliminating transportation-related fatalities. Serious injury collisions (referred to as Injury “A”) are also regularly included in the discussion because of their debilitating impacts on those involved.

Wilsonville has a strong safety record with a 10-year average of only four annual fatal or serious injury collisions. Most crashes occurred on Wilsonville Road or at I-5 entrance and exit ramps. There was an unusually high number of crashes in 2008, but generally the number of collisions has been decreasing over time. The locations of 2008-2013 collisions are shown on the map on the next page, which identifies collision severity and travel mode.

**Serious Injury (or Injury “A”)** is defined by ODOT as an incapacitating injury that “prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred.” Severities are based on assessment at the scene and may not reflect final medical judgements.

Source: ODOT Crash Database
Fatal and Serious Injury Crashes

- Motor-Vehicle Only
- Pedestrian Involved
- Bicycle Involved

Note: Crashes are only shown for 2008-2013 because earlier crashes are not geocoded.

Source: ODOT Crash Database
Goal 2: Connected & Accessible

**Multimodal Connectivity**

Objective: Provide residents with multimodal access to parks, schools, employment centers, retail areas, and the surrounding region

A new geographic information system (GIS) tool was developed to assess the connectivity of Wilsonville’s multimodal network.

Network connectivity is a critical attribute of Wilsonville’s transportation system and is one of the City’s transportation system goals. Wilsonville’s elected officials and staff have stated how important it is to create a comprehensive network of safe, attractive, and direct travel options to provide residents with multimodal access to parks, schools, employment centers, and retail areas.

The new GIS multimodal connectivity tool helps the City to measure its transportation system connectivity, identify areas of needed improvement, and can track changes over time in response to land development.

The network connectivity tool also provides a platform to assess, visualize, and communicate the impacts of multimodal infrastructure gaps, deficiencies, and facility improvements. By calculating access before a project and after a project, then taking the difference, the impact of that project can be isolated and visualized.

The summary maps and tables presented here describe the number of destinations accessible from each tax lot by walking and biking. Four types of destinations are considered: all tax lots, public amenities, private amenities, and local jobs.

Destinations were considered accessible from a tax lot if it could be reached within 15 minutes at a typical walking or biking speed. See methodology notes on the next page for more details.

Walking access to tax lots and public amenities was highest in Villebois and other residential areas with small tax lot sizes and public parks. Walking access to private amenities was highest near the I-5 interchanges. Local job access is also clustered in the industrial and interchange areas.

Overall, biking access showed similar patterns as walking access, but with higher scores near the city center due to biking’s wider travel range.

A digital version of this tool will be provided to city staff, along with a web-based interface for exploring the results in detail.
Methodology Notes:

Analysis included locations within Wilsonville and in active planning areas adjacent to the city. 6,833 tax lots, 123 public amenities, 128 private amenities, and 11,334 FTE jobs were included.

Walking speed was defined as 3 miles per hour, or 0.75 miles in 15 minutes. Biking speed was defined as 11 miles per hour, or 2.75 miles in 15 minutes. Both are consistent with typical transportation engineering practice. Intersection delay was not included in this calculation.

All travel paths were along the transportation facility network. Travel was permitted on non-dedicated facilities (streets without a bike lane or sidewalk, unmarked crosswalks), but travel speed along non-dedicated facilities was reduced by 50% to account for less attractive conditions. Local streets received no penalty for missing facilities.

Results for motor vehicle access and transit access are not included.

Nearly all local destinations are within a reasonable driving distance throughout Wilsonville. Motor vehicle network performance is better assessed through the delay-based measures provided for Goal 3.

Technical limitations prevented transit access from being included in this version of the GIS tool, future updates should pursue measures of transit access.

Destination sets used for the analysis included:

- **All tax lots**, which provide a baseline assessment of the transportation network and development form, but is less sensitive to land uses.

- **Public amenities**, which include key civic facilities such as libraries, schools, government buildings, fire stations, community centers, and parks and open spaces.

- **Private amenities**, which include food and beverage providers, retail and entertainment options, and other everyday services.

- **Local employment opportunities**, defined as full-time equivalent (FTE) jobs, approximated from the City’s business license database. This data differs from other employment values (page 7) due to the anonymization process. It is here considered a useful proxy for jobs.
Score based on number of destinations within a 15 minute walk. Results shown with an equal number of tax lots in each color category.
Score based on number of destinations within a 15 minute bike ride. Results shown with an equal number of tax lots in each color category.
To understand how congestion levels have changed around Wilsonville, motor vehicle delay was calculated for eight Wilsonville intersections for the past ten years.

Delay at each location is shown in the chart above. Intersection p.m. peak hour delay is the most common measure of transportation network congestion, and Wilsonville policy defines a maximum acceptable delay of 55 seconds average per vehicle, equivalent to a Level of Service (LOS) of D or better. Delay is calculated using Highway Capacity Manual 2000 procedures.

Motor vehicle volumes (p.m. peak hour, total entering vehicles) for each location are shown on the map and chart on the next page. The map shows average yearly volume growth percentages since the most recent system-wide analysis was performed for the 2013 Wilsonville TSP. The chart shows ten years of traffic count volumes.

While motor vehicle volumes are generally increasing throughout Wilsonville, there is still sufficient capacity at all intersections due to recent improvements.

- The Wilsonville Road/I-5 Interchange area experiences the greatest delays. A significant increase in traffic volumes occurred at Wilsonville Road/Boones Ferry Road, primarily on the south leg near the new Fred Meyer shopping center. Because intersection improvements were also completed, average delays remain low except when queues back up from the I-5 interchange ramps.

- Since 2008, traffic volumes at Wilsonville Road/Town Center Loop West decreased by an amount comparable to the increase near Fred Meyer. This may suggest a shift in traffic between the two retail areas rather than the attraction of new traffic from outside the City.

- Traffic volumes have increased in northwest Wilsonville, primarily due to traffic between the I-5/Elligsen Road interchange and Grahams Ferry Road to the north.

- Boones Ferry Road/95th Avenue was recently expanded and can accommodate additional traffic volumes with decreased delays.
Motor Vehicle Volumes Map

Motor Vehicle Volumes (P.M. Peak Hour) – Past 10 Years

Map shows trend for past 4 to 6 years

Source: DKS Associates
(historical traffic counts from prior traffic analysis)
Limited travel time data is currently available for Wilsonville roadways. Installing permanent Bluetooth sensors would allow Wilsonville to collect on-going travel time data along arterials and better understand interchange area congestion, which is currently one of the most significant traffic issues affecting the city. Within the next few years, SMART plans to outfit its buses with GPS tracking technology, which will provide Wilsonville with a new data source that can provide travel time reliability estimates on all roadways served by transit.

New data collection methods are required to assess travel time reliability in Wilsonville. Additional data in the I-5/Wilsonville Road interchange area will be particularly beneficial.

Travel time reliability measures the consistency or dependability of the travel times that travelers experience day-to-day and/or across different times of the day. It is a helpful way to understand the regularity and extent of unexpected delays, which can significantly affect a person’s experience with the transportation system. When agencies monitor travel times, they are better able to manage and operate their transportation systems.

The buffer index is a common reliability measure, representing the extra time that travelers should add to their average travel time when planning trips to ensure 95% on-time arrivals, considering daily variability in travel times.

Because it requires ongoing data collection, travel time reliability has historically been cost prohibitive to measure. However, many new data sources have become widely available over the past few years, particularly due to the capabilities and prevalence of mobile devices among the traveling public.

Bluetooth monitoring technology has proven to be a useful, versatile, and cost-effective source of travel time data. Sensors can be integrated into existing traffic signal poles, or can be set up on stand-alone poles with solar power. Real-time data access is recommended through cellular modems or hardwired communications, or alternatively data could be archived locally and retrieved manually in non-real time.

Spaced along an arterial road, Bluetooth sensors can provide accurate and continuous information on travel times. With an area-wide coverage of sensors, it provides further insight into origin-destination travel flows and patterns within the area. This is all possible with built-in high levels of privacy for individuals.

Other private providers of travel time data based on crowdsourced GPS or cellphone records are available, such as INRIX, TomTom, and Airsage. These have had limited road coverage in Wilsonville, but may improve in the future.
### Bluetooth Sensor System

**Approximate Placement Locations**

**Approximate Cost of Operations**
(4 Locations w/ cloud service)

- **BlueTOAD (Realtime)**
- **BlueTOAD (Non-Realtime)**
- **BlueMAC (Realtime)**
- **BlueMAC (Non-Realtime)**

### Vendor Options

<table>
<thead>
<tr>
<th>System</th>
<th>Contractor</th>
<th>BlueTOAD</th>
<th>BlueMAC (Cloud)</th>
<th>BlueMAC (Agency Server)</th>
</tr>
</thead>
</table>
| **Pros** | 1. No capital cost  
2. Pay as used  
3. No equipment to store, maintain, repair  
4. Contractor creates report  
5. Works well on project-by-project basis for short (1-week) timeframe | 1. Large deployment base throughout nation  
2. Deploy as needed  
3. Agency staff can place devices precisely and consistently  
4. No server to maintain | 1. Lower long-term cost  
2. Deploy as needed  
3. Can place devices precisely and consistently  
4. Full access to previous data sets, can customize analysis procedures.  
5. No server to maintain | 1. Lowest long-term cost  
2. Deploy as needed  
3. Can place devices precisely and consistently  
4. Full access to previous data sets, can customize analysis procedures.  
5. Data stored in-house and will never lose access; can utilize existing servers. |
| **Cons** | 1. High long-term cost for limited deployment time (approximately $600 per week per sensor)  
2. Might not have access to raw historical data  
3. Must accommodate contractor schedule  
4. Little control over precise sensor placement | 1. Higher long-term cost than other systems  
2. Agency responsible for storing and maintaining equipment  
3. Rely on vendor for data hosting and analysis; vendor unwilling to provide copy of raw data | 1. Agency responsible for storing and maintaining equipment  
2. Rely on vendor for data hosting; ongoing cost for cloud service. | 1. Higher up-front cost than cloud option  
2. Agency responsible for storing and maintaining equipment  
3. Agency responsible for furnishing and maintaining server |
No freight-specific travel time data is currently available. Additional coordination is needed with the freight community to understand whether this, or another, metric will be most helpful and practical in understanding and tracking how well Wilsonville is accommodating freight needs.

New data collection methods are required to assess freight travel time reliability (or another more meaningful freight-related metric) in Wilsonville.

Freight performance is an important consideration in Wilsonville due to the significant number of large manufacturing and distribution companies located in the city.

As described previously in the “Travel Time Reliability” section, travel time reliability measures the consistency or dependability of the travel times that travelers experience day-to-day and/or across different times of the day.

Travel time reliability along key freight routes, or for freight vehicles specifically, is a metric often used to evaluate freight system performance. A monitoring system for travel time reliability generally will also provide freight insights.

The 2013 Wilsonville Transportation System Plan established truck routes as part of an identified freight network. These routes, shown in the map on the next page, provide access to important freight destinations and focus heavy freight traffic to appropriate roads.

Wilsonville will benefit from additional outreach to the freight community to determine what new metrics and data may be available to assist the City in understanding how the transportation system accommodates and influences freight.

Motor vehicle delay data (p.m. peak hour), discussed earlier in the “Intersection Delay” section, provides relevant information on typical sources of delay along truck routes. Although this is not a reliability metric, nor is it freight-specific, it is still useful to consider.

Of the eight intersections where motor vehicle volumes and delay are studied in this report, seven are on truck routes. Five of these locations are experiencing recent vehicle volume growth of over 2% annually, but delay at most of truck route intersections have been largely unchanged or reduced over the last four to six years.

Delay is highest at the Wilsonville Road/I-5 Interchange area, but remains under 35 seconds in the p.m. peak hour. Delay is increasing at Grahams Ferry Road/Day Road, but remains under 20 seconds in the p.m. peak hour.
This page will be used in future editions of this report to show freight-related metrics, including maps and graphs as appropriate.

This freight routes map is reproduced from Figure 3-4 in the 2013 Wilsonville Transportation System Plan.
**Pavement Condition**

**Goal 4: Cost Effective**

**Objective: Maintain good pavement conditions that help reduce more costly expenses in the future**

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**Wilsonville is making progress in decreasing the amount of pavement in need of significant repair for all road types.**

Pavement condition is a key indicator of Wilsonville’s existing and upcoming roadway maintenance needs. It is measured by performing a visual survey of the number and types of distresses in a pavement, and the results are reported using the Pavement Condition Index (PCI), which is a numerical index between 100 (best) and 0 (worst). For example, a newly constructed or overlaid street would have a PCI near 100, while a roadway in need of major repairs would have a PCI under 70.

It is critical for the City to consistently perform maintenance to existing roadways to maintain pavement conditions in the “Good” to “Fair” range (i.e., a PCI between 80 and 100). Doing so will allow the City to prolong pavement life and avoid costly reconstruction needs. In addition to financial benefits, maintaining good pavement conditions also improves the City’s livability from both a user experience and aesthetic standpoint.

As well as in-house monitoring of conditions of city streets, Wilsonville performs independent pavement inventories every few years, with the most recent being performed in 2013. In 2013, the average overall network Pavement Condition Index (PCI) of the City’s street network was recorded at 82, which indicates that the street network is generally in ‘Good’ condition. The amount of pavement with a PCI below 70 has decreased with time.

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**Note:** Between 2001 and 2008, some roads changed functional classification from Collector to Arterial.
Pavement Condition Map
(April 2013)

Note: Since April 2013, Street Maintenance has done work on Town Center East, Town Center West, and Wilsonville Road near the Town Center.
Goal 5: Compatible

Cross-Section Compliance

Objective: Ensure Wilsonville’s multimodal transportation corridors include adequately designed facilities to serve all intended users

Cross-section compliance refers to the percentage of Wilsonville’s arterials and collectors that meet applicable cross-section standards. The City’s standards are specified in the 2013 Transportation System Plan (TSP) and differ based on the roadway’s designated functional classification, as shown to the right. Design elements include travel lanes, curbs, planter strips, sidewalks on both sides of the road, and bicycle facilities consistent with designated bikeways, walkways, and shared-use trails. The Community Development Director has the flexibility to allow modified context-sensitive designs.

Currently 49% of Major Arterials, 71% of Minor Arterials, and 69% of Collectors comply with the City’s cross-section standards. The map on the following page highlights road segments where cross-section standards are not fully met. Data was not available for Local roads. As Wilsonville develops, its policies (such as the requirement for developers to provide street improvements along their frontages) will ensure it continues to improve cross-section compliance.

Historical data has not been previously compiled, but as Wilsonville develops, its policies ensure it will continue to improve cross-section compliance.
Source: 2013 TSP (Figure 4-1), with revisions based on recent projects completed by the City.
Transportation mode share measures the relative use of transportation options in the City. These options principally include motor vehicle use, walking, biking, and public transit; though they also include skateboards and wheelchairs.

While automobile use is the predominant travel mode in Wilsonville and provides an important means for the majority of users to access local and regional destinations, it is important for Wilsonville to make other transportation options available to residents, employees, and visitors due to health, equity, and economic benefits.

Travel options are particularly important to those who may have physical or economic limitations that prevent them from driving their own personal vehicle. In addition, active options such as walking and biking support healthy lifestyles, are economic, and can help reduce traffic congestion and greenhouse gasses - particularly around schools and in areas with higher residential and commercial density.

The graphs on the following page depict the data currently available.

- Transit ridership data from South Metro Area Regional Transit (SMART), as rides provided per capita based on Wilsonville’s population. Ridership has steadily increased since 2004.
- Commuter mode share data for large companies from the Oregon Department of Environmental Quality (DEQ) Employee Commute Options (ECO) program, which includes an annual weekday commute survey. Non-single occupancy vehicle mode share overall has declined since 2011.
- Annual bicycle and pedestrian counts overseen by SMART staff, collected by volunteers at key locations and intersections, and supported by Metro and The National Bicycle and Pedestrian Project. Although limited, the data does show general areas in the City where there is higher pedestrian and bicyclist activity, such as Wilsonville Road near Town Center Loop and in Memorial Park.

No comprehensive, citywide data is currently available on the availability of choices and travel behavior in regards to mode of transportation. However, some related questions were asked in the 2014 National Citizen Survey.

Until a comprehensive method can be developed to estimate citywide mode share, various related data sources exist that can help provide a better understanding of the comparative motor vehicle, pedestrian, bicycle, and transit use. SMART plays a key role in collecting and managing much of the non-vehicular data.

New data collection methods are required to fully assess transportation mode share in Wilsonville. Survey results suggest many residents choose alternatives to driving alone.
Citizens generally find it easy to travel around town. The ease of walking had the most “Excellent” responses (45%), while that of bicycling had the most “Poor” responses (6%).

Citizen surveys are a helpful way to gauge public perception regarding the effectiveness of Wilsonville’s transportation system. The purpose of the transportation system is to connect residents, employees, and visitors with their desired destinations, and to do so in a safe and convenient manner. By understanding a wide range of user perspectives, the City can identify areas where improvements can be made and are likely to be most appreciated by the public.

In 2012 and 2014, the City of Wilsonville participated in the National Citizen Survey (NCS). The NCS captures residents’ opinions within the three pillars of a community (Community Characteristics, Governance and Participation) across eight central facets of community (Safety, Mobility, Natural Environment, Built Environment, Economy, Recreation and Wellness, Education and Enrichment and Community Engagement).

In 2014, a representative sample of 351 residents completed the survey, which has a margin of error of 5%. Respondents expressed a high overall ease of getting to the places they usually have to visit, for all modes of travel, as shown in the graph above.

The graphs on the next page show respondents felt the biggest priority facing the City is to ensure growth and development occur while also protecting quality of life. Transportation needs (including traffic congestion, more transit service, and better bicycle connectivity) was fourth on the priority list.

Public perception of conditions was best regarding street lighting and street cleaning. High marks were also given for sidewalk maintenance, transit services, and the availability of paths and walking trails, and the overall built environment. Lower marks were given to street repair, traffic flow on major streets, and signal timing.
### 2014 Wilsonville National Citizen Survey – Biggest Priority Facing City

- **Growth and Development (Balance Growth and Quality of Life)**: 26%
- **Housing (More Affordable, Single-Family Homes)**: 17%
- **Quality Jobs and Retail (More Options)**: 16%
- **Transportation (Traffic Congestion, More Transit Service and Bike Connectivity)**: 14%
- **City Services (Focus on Essentials: Crime, Safety, Infrastructure, and Transparency)**: 11%
- **Education and Recreation (New Middle School; New City Pool)**: 8%
- **Other**: 8%

#### Includes Growth Impacts to Transportation

#### Transportation

### 2014 Wilsonville Survey Results – Perception of Conditions

#### Built Environment

- **Availability of paths and walking trails**: Excellent 48%, Good 36%, Fair 15%, Poor 1%
- **Overall "built environment" of Wilsonville**: Excellent 36%, Good 45%, Fair 14%, Poor 5%
- **Traffic flow on major streets**: Excellent 16%, Good 49%, Fair 25%, Poor 10%

#### City Services

- **Street lighting**: Excellent 38%, Good 50%, Fair 12%, Poor 0%
- **Street cleaning**: Excellent 38%, Good 49%, Fair 12%, Poor 1%
- **Sidewalk maintenance**: Excellent 32%, Good 52%, Fair 15%, Poor 1%
- **Bus or transit services**: Excellent 36%, Good 47%, Fair 13%, Poor 4%
- **Street repair**: Excellent 28%, Good 47%, Fair 23%, Poor 2%
- **Traffic signal timing**: Excellent 21%, Good 43%, Fair 27%, Poor 9%

#### Survey Comparison of Excellent and Good Responses

<table>
<thead>
<tr>
<th>Service</th>
<th>2014</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of paths and walking trails</td>
<td>84%</td>
<td>78%</td>
</tr>
<tr>
<td>Overall &quot;built environment&quot; of Wilsonville</td>
<td>81%</td>
<td>-</td>
</tr>
<tr>
<td>Traffic flow on major streets</td>
<td>65%</td>
<td>48%</td>
</tr>
<tr>
<td>Street lighting</td>
<td>88%</td>
<td>83%</td>
</tr>
<tr>
<td>Street cleaning</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>Sidewalk maintenance</td>
<td>84%</td>
<td>74%</td>
</tr>
<tr>
<td>Bus or transit services</td>
<td>83%</td>
<td>85%</td>
</tr>
<tr>
<td>Street repair</td>
<td>75%</td>
<td>60%</td>
</tr>
<tr>
<td>Traffic signal timing</td>
<td>64%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Health conditions and healthy lifestyle choices are an essential contributor to livability and are enhanced by an individual’s built environment, including the transportation system. Families, employees, and others benefit from convenient and attractive paths and trails that support outdoor recreation, activity, and travel.

The City of Wilsonville can encourage and support resident’s healthy lifestyles by making active transportation options available. Survey results indicate over 80% of residents feel fitness opportunities such as trails and paths are good or excellent within the city.

Other sections of this report (Goals 2 and 6) measure active transportation access and use. It would be beneficial in future reports to further explore or quantify the relationships between Wilsonville’s transportation system and the health outcomes of its residents. For now, the discussion here is meant to raise awareness of the connections between the two.

The graphs on the following page provide a variety of currently available information for each of the census tracts in Wilsonville regarding health outcomes that are influenced by active lifestyle choices or the built environment, including:

- **Asthma:** Transportation-related pollutants are one of the largest contributors to unhealthy air quality, and exposure to traffic emissions has been linked to many adverse health effects, including exacerbation of asthma symptoms.

- **Diabetes:** Physical activity is an important factor in preventing and managing diabetes. Some key ways to be active include walking and moving around throughout the day.

- **Cardiovascular disease:** A sedentary lifestyle is one of the five major risk factors for cardiovascular disease, and aerobic exercise such as walking, jogging, and biking help improve heart health.
Health Outcomes by Census Tract

This performance report is one step in Wilsonville’s effort towards improved performance management of its transportation system. It presents a new Transportation System Performance Monitoring and Reporting Program that tracks system-wide performance measures which align with the City’s transportation goals.

Identifying these performance measures will help the City to make investments and decisions that promote Wilsonville’s desired transportation vision. Tracking the performance measures on a regular basis, through updated bi-yearly future reports, will allow the impact of public investments and private development to be better understood and directed more effectively. The City can continue to improve this program through the recommended actions below.

### Recommended Action(s) for Each Performance Measure

<table>
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| 1. Safe                   | Fatal and Serious Injury Collisions          | • Investigate additional data sources to better understand the outcomes and contributing factors to high-severity crashes. Potential options include the Oregon Trauma Registry and local police records (including outreach and enforcement).  
• Use Highway Safety Manual (HSM) Predictive Method techniques to better characterize and evaluate the relationship between the roadway environment and high-severity crashes. |
|                           | Multimodal Connectivity                      | • Continue to refine the multimodal network connectivity tool to best represent local and regional accessibility. Potential options include integrating a standardized engineering assessment of facility quality (such as Multimodal Level of Service or Bicycle Level of Traffic Stress), incorporating transit access, and adding regional destinations outside of Wilsonville.  
• Evaluate the potential for staff to use multimodal connectivity measures to inform development review, business outreach, and other local connectivity and accessibility projects. |
| 2. Connected and Accessible | Intersection PM Peak Hour Delay             | • Continue to track PM Peak Hour delay and include analysis of AM Peak Hour delay to capture both peak periods of congestion at key locations.  
• Investigate options for cost-effective upgrades to existing traffic signals and controllers that would allow additional automated intersection performance measures. Coordinate with Portland State University’s PORTAL program for regional data archiving of intersection performance measures. |
|                           | Travel Time Reliability                       | • Install Bluetooth sensors on Wilsonville Road, Boones Ferry Road, and Elligsen Road near the I-5 interchanges to collect on-going arterial travel time data and better understand interchange area congestion. A systems engineering design process should be used to determine the exact number and location of sensor installations, as well as the vendor and software architecture. Consider a two-phase installation with a limited pilot installation, followed by data verification and an expanded second phase installation. Additional sensors along Boeckman Road would provide added coverage.  
• Support SMART’s efforts to outfit buses with GPS tracking technology and facilitate data sharing and analysis.  
• Coordinate with Portland State University’s PORTAL program for regional data archiving of arterial performance measures. |
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| 3. Functional and Reliable (cont.)           | Freight Travel Time Reliability  | • Coordinate with Wilsonville’s freight providers to understand what data they can share with the City.  
 • Assess if travel time reliability is the most helpful and practical measure for understanding and tracking how well Wilsonville is accommodating freight needs. |
| 4. Cost Effective                            | Pavement Condition               | • Coordinate with the City’s Road Maintenance program to incorporate data for in-house ongoing maintenance plans, investments, and outcomes into the performance report. |
| 5. Compatible                                | Cross-Section Compliance         | • Coordinate with the City’s Community Development Director to incorporate data on specific road design elements and approved exceptions.  
 • Collect and analyze data for local classified roads.  
 • Consider adding a performance measure for Network Completeness, which evaluates what portion of the planned multimodal transportation network is built or programmed. |
| 6. Robust                                    | Transportation Mode Share        | • Install on-going automatic bike count data collection devices at key locations in the bike network. Use a systems engineering design process to determine technology, number, placement, and software architecture for implementation. Options include roadside tube counters or radar/LIDAR systems, roadway embedded magnetometers, and modifying/upgrading traffic signal actuation technology for counting purposes.  
 • Coordinate with SMART to explore new data collection methods that more fully assess transportation mode share and trip purpose in Wilsonville.  
 • Coordinate with Portland State University’s PORTAL program for regional data archiving of bicycle and pedestrian counts. |
| 7. Promotes Livability                        | Positive Citizen Survey Response | • Use citizen surveys, such as the National Citizen Survey (NCS), on a bi-yearly basis to track and monitor citizen’s opinions on the City’s transportation system. |
|                                              | Health Conditions/Healthy Lifestyles | • Monitor regional, state, and national efforts to more fully consider the health implications of transportation decisions through means such as Health Impact Assessments (HIAs).  
 • Identify and apply best-practices and new data sources to analyze the relationship between Wilsonville’s transportation system and the health of its residents. |