

TAHOMA to TACOMA TRAIL NETWORK

The health, equity, transportation,
environmental, and economic benefits
of trails in the Puyallup Watershed



Puyallup Watershed Initiative



MARCH 2016





ACKNOWLEDGEMENTS

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We would also like to recognize the members of the Active Transportation Community of Interest for their unceasing work to realize the vision of the Tahoma to Tacoma Trail Network.

Special thanks also to our intrepid trail photographer, Don Willott.

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INTRODUCTION

Authorized
Vehicles
Only



The vision of the Tahoma to Tacoma to Trail Network is to create a region-wide system of attractive, safe, low-stress connections for residents and visitors to the many regional and local destinations in the Puyallup Watershed. Communities from Commencement Bay to Mt. Rainier National Park will have increased access to everyday destinations, improved health, equity, economic development, and opportunities to enjoy the natural beauty of the region.

This report evaluates the benefits that could be generated if two major alignments of the Tahoma to Tacoma Trail Network - the Main Alignment and Pipeline Trail - are completed. Segments of the Main Alignment exist today - including the Foothills Trail and Puyallup Riverwalk Trail - but the corridor in its entirety remains a concept and specific alignments have yet to be determined. Quantifying the potential health, equity, environmental, tourism property value, and transportation impacts of the complete corridor could focus the regional discussion around active transportation and enables communities in the Puyallup Watershed to better manage existing resources, coordinate local/regional improvements and prioritize future investments.

The second alignment, the Pipeline Trail, would tie into the Main Alignment along a more southern route and serve as an important connector for the communities between Tacoma and South Hill.

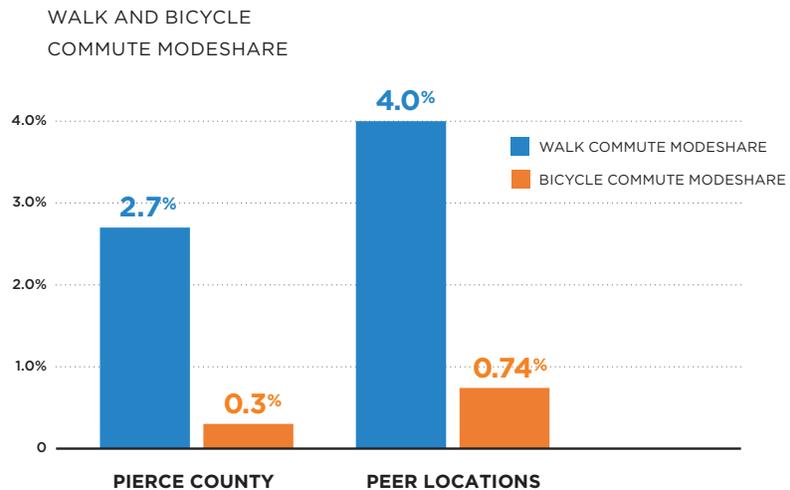
METHODS

DATA SOURCES

This analysis estimates the health, equity, environmental, economic, tourism, transportation, and access impacts associated with bicycling and walking near the proposed trail alignments using five-year socioeconomic and travel behavior estimates generated by the U.S. Census Bureau and regional multipliers generated by the Bureau of Economic Analysis.

How could a fully-constructed trail network improve the way residents and visitors experience the Puyallup Watershed? To better understand the shift in travel behavior, we looked at transportation patterns in a number of other counties that feature similar or higher levels of walking and bicycling. These counties, known as “peer locations,” were selected because they have similar existing and/or proposed trail networks, physical geographies, regional destinations and a mix of urban/rural communities and may also have achieved measures of success that could be considered appropriate goals or targets for the Puyallup Watershed region.

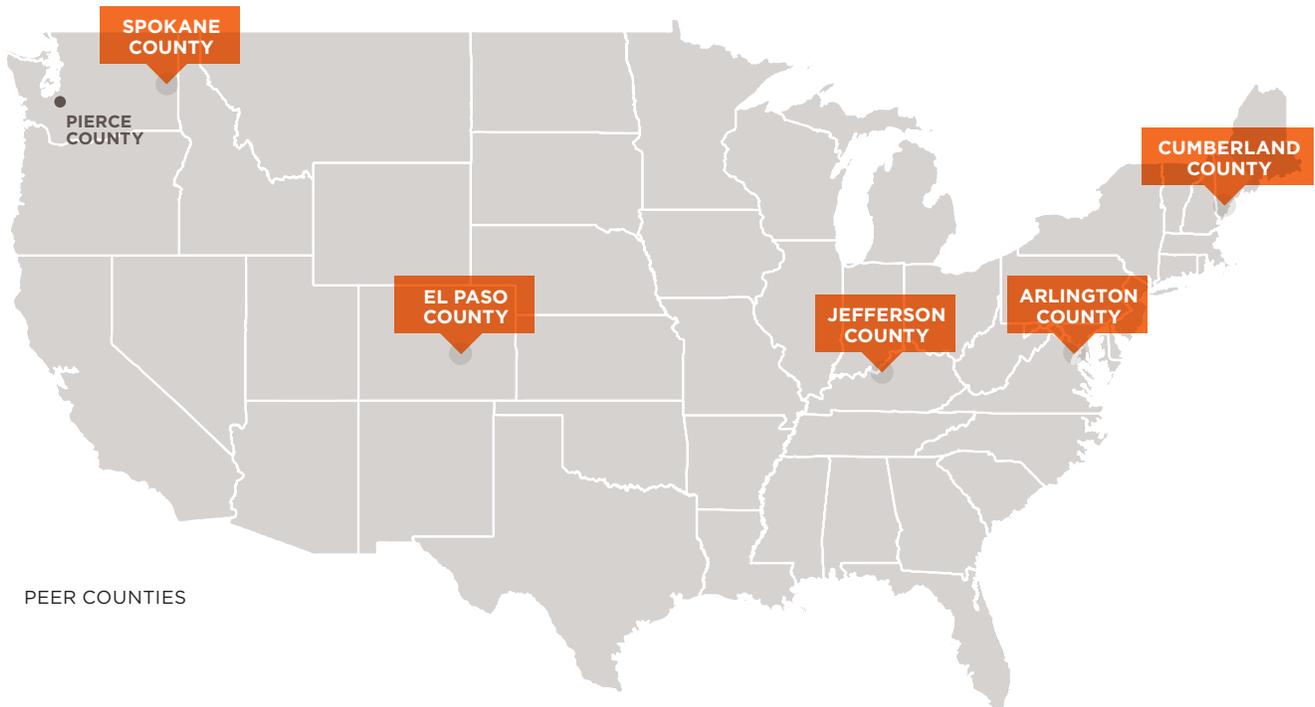
Based on these characteristics, the locations selected as peer locations were: El Paso County



(CO), Jefferson County (KY), Cumberland County (ME), Arlington County (VA) and Spokane County (WA).¹ At least one of the largest cities in each of these counties has received the League of American Bicyclists’s Bronze or Silver level of Bicycle Friendly Community Award designation. Tacoma, the largest urban center in the Pierce County currently holds a Bronze level award designation.²

The designation of a community as a Bicycle Friendly or Walk Friendly Community represents a significant investment in improvements to the bicycling and walking environment in

each community. Because of the improvements these counties have made to earn these awards, residents are (on average) more likely to bicycle in five of the peer counties than in Pierce County and more likely to walk in four of the peer counties than in Pierce County. Currently only 0.3% of the Pierce County residents bicycle to work compared to an average of 0.74% in the peer locations.³ Similarly, only 2.7% of Pierce county residents currently walk to work compared to an average of 4.0% in the peer locations.⁴



HOW THE IMPACTS ARE CALCULATED

A series of over 50 factors derived from peer-reviewed studies and journal articles around the U.S. were applied to convert the estimated number of new bicycle and walking trips that will result from the construction of the Tahoma to Tacoma Trail Network’s Main Alignment, Pipeline Alignment, and Combined Alignment.

LIMITATIONS OF THE ANALYSIS

The primary intent of this evaluation is to establish a clearer, more complete snapshot of how these trail alignments could improve the quality of life of residents and visitors within the Puyallup Watershed.

Although the trails are likely to be constructed in segments over time, the estimates here are not intended to represent potential impacts of developing discrete segments of the trail alignments.

The full benefits of developing each of these alignments is only achieved through the increased level of connectivity across a comprehensive network. As such, the benefits presented in this report correspond to the full construction of the Main Alignment, Pipeline Alignment, and Combined Alignment, respectively. **As such, the benefits presented in this report correspond to the full construction of the Main Alignment, Pipeline Alignment, and/or Combined Alignment.**



MAIN ALIGNMENT

PIPELINE TRAIL ALIGNMENT

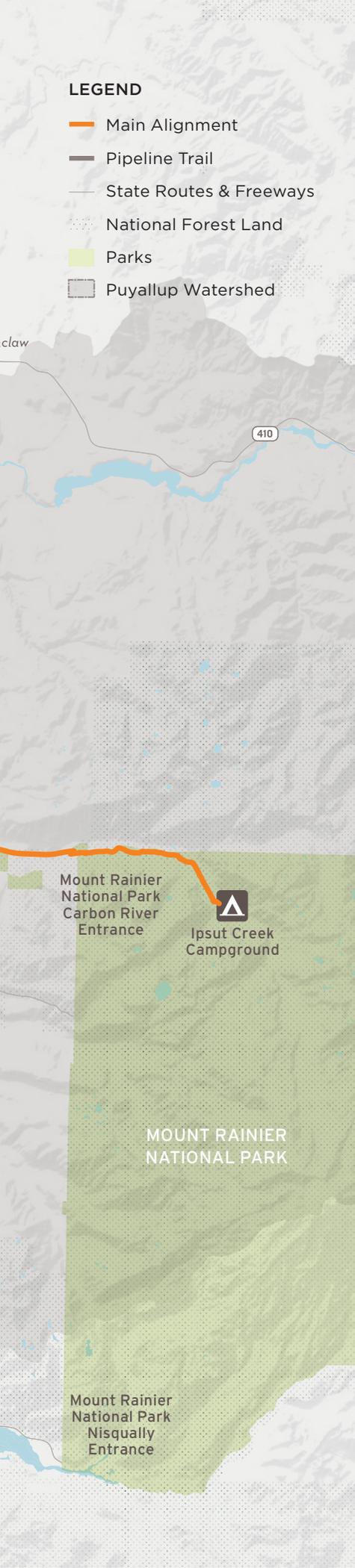
**TAHOMA to TACOMA
TRAIL NETWORK**

MAIN ALIGNMENT



LEGEND

- Main Alignment
- Pipeline Trail
- State Routes & Freeways
- ▨ National Forest Land
- ▨ Parks
- ▨ Puyallup Watershed



The Puyallup Watershed Initiative envisions a connected trail network from Mount Rainier to Commencement Bay. This system will link new and existing trails and allow residents and visitors to walk, bicycle, and skateboard between key local and regional destinations.

The Tahoma to Tacoma Trail Network will connect local communities while showcasing our region’s natural beauty, from the glacial peak of Mount Rainier to the shores of the Puget Sound.

MAIN ALIGNMENT SUMMARY

23,719 HOUSEHOLDS within 1/2 mile

129,562 HOUSEHOLDS within 3 miles

Approximately
62.5 MILES LONG

If the Main Alignment were completed today, it could provide:



\$1,391,000 per year in Health Benefits



\$3,225,000 per year in Transportation Benefits



\$93,000 per year in Environmental Benefits



\$8,250,000 per year in Economic Benefits



\$120,571,000 in one-time Property Value Benefits

TOTAL BENEFITS PER YEAR

\$12,959,000



MAIN ALIGNMENT

HEALTH + EQUITY BENEFITS



MAIN ALIGNMENT

HEALTH + EQUITY
BENEFITS



Improved community health and wellness is directly related to increased levels of physical activity. A growing body of literature has shown a strong connection between parks and trails and increased physical activity.

The Main Alignment of the Tahoma to Tacoma Trail Network could dramatically increase safe and convenient opportunities for residents and visitors to walk, skateboard, bike and lead to increased frequency and duration of physical activity among Pierce County residents.^{5,6,7,8} This could in turn lead to reduced risk of obesity, diabetes, heart disease, stress related health problems, and other health concerns attributed to physical inactivity.^{9,10}



PIERCE COUNTY PROFILE

The ability for all residents and visitors to safely and conveniently walk, bicycle, and skateboard is a fundamental equity measure, and translates to numerous community health and equity-related benefits, including reduced risk of obesity, diabetes, and heart disease.¹¹ The following statistics provide a snapshot of the health and equity -related impacts and benefits for Pierce County.



20%

of the population is physically inactive¹²



11%

of Pierce County residents do not have access to exercise opportunities¹³



31%

of the adult population is obese¹⁴



Diabetes costs Pierce County

\$322 MILLION

per year¹⁵



If the Main Alignment were completed today, Pierce County could see an increase of:



9,620,000
miles biked per year



9,336,000
miles walked per year



31,000
more residents getting a healthy amount of exercise



\$1,391,000
in total healthcare savings from walking and bicycling per year



Access for **11,399** households without a vehicle within 3 miles of the trail

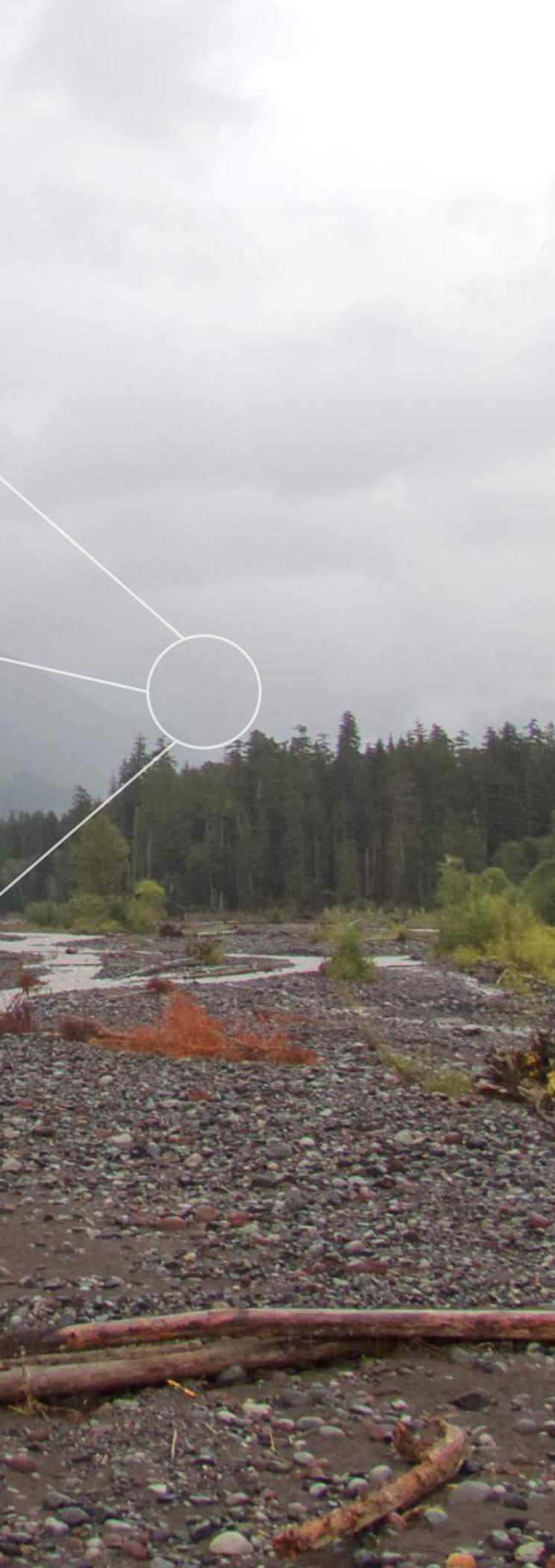


Access for **45,640** people below the poverty line within 3 miles of the trail



MAIN ALIGNMENT

TRANSPORTATION + ENVIRONMENTAL BENEFITS



MAIN ALIGNMENT
—
TRANSPORTATION
+ ENVIRONMENTAL
BENEFITS



The Main Alignment of the Tahoma to Tacoma Trail Network would result in increased access and connections to many local and regional destinations. It would provide residents and visitors with more travel options and present a safe, comfortable, efficient, and enjoyable way for people to get around.

Additionally, the Main Alignment would provide the Puyallup Watershed region with transportation-specific benefits related to reductions in the number of vehicle miles traveled (VMT). The following benefits account for reductions in the estimated costs of congestion, vehicle collisions, road maintenance, and direct household vehicle expenses, as well as the estimated environmental impact associated with vehicle emissions.



PIERCE COUNTY PROFILE

Constructing the Main Alignment of the Tahoma to Tacoma Trail Network would directly impact the following transportation and environmental considerations for residents in the Puyallup Watershed.



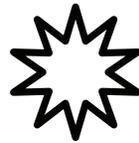
\$8,220

Average cost of operating a car per year ¹⁶



\$308

Average cost of operating a bike per year ¹⁷



222

Youth hit by cars while walking or biking in Tacoma from 2010-2014 ¹⁸



4.7%

of all local trips in Pierce County are made by walking ¹⁹

**If the Main Alignment were completed today,
Pierce County could experience:**



2,781,000

Fewer miles traveled by
automobiles



\$1,001,000

in reduced collision-related
costs per year



\$1,585,000

In reduced household
vehicle operation costs
per year



\$93,000

in total environmental
cost savings from reduced
vehicle emissions per year



\$221,000

In reduced congestion-
related costs per year



8,041,000 lbs

of CO2 Emissions Diverted

The background of the image is a historical street scene mural. It depicts a town square with various buildings, including a red barn on the left with a sign that says "HORSE SHED", a central building with a sign "CREATING BUSINESS", and other storefronts on the right. In the foreground, there are several horse-drawn wagons, some carrying hay, and a steam locomotive in the middle ground. The scene is set against a backdrop of green hills. Overlaid on this scene is a white network diagram consisting of several circles of varying sizes connected by thin white lines. The text "MAIN ALIGNMENT" is written in blue, and "ECONOMIC + PROPERTY VALUE BENEFITS" is written in large white letters with a blue plus sign.

MAIN ALIGNMENT

ECONOMIC + PROPERTY VALUE BENEFITS



MAIN ALIGNMENT

ECONOMIC + PROPERTY VALUE BENEFITS



Development of the Main alignment of the Tacoma Trail Network would provide residents and visitors access to local parks, regional destinations of cultural and historical significance (including Mt. Rainier National Park) and all of the everyday connections that the communities of the Puyallup Watershed make to go to work, school, shop, and play.

As a growing industry and major economic driver in the region, tourism is an increasingly important basis for developing the regional trail network. An analysis of the U.S. Bureau of Economic Analysis RIMS II multipliers estimates the region can expect around \$8,250,000 in tourism dollars annually as a result of constructing the Main Alignment.

Additionally, the transportation and recreation amenities that the Main Alignment provides could incentivize residents and business owners to invest in property. Property value studies of similar trail systems show that nearby property owners can expect a 3.5% increase in property values, amounting to an overall increase of around \$120.5 million dollars.

MAIN ALIGNMENT

ECONOMIC +
PROPERTY VALUE
BENEFITS



PIERCE COUNTY PROFILE

The economic and property value benefits of the Main Alignment are particular to the conditions here in Pierce County, including the number of tourists the Tahoma to Tacoma Trail Network could attract, how much visitors spend, the number of tourism-related jobs created, and how much property values could increase near the alignments as a result of trail construction. The following are a few examples of the economic motivations for the construction of the Main Alignment.



Visitors to Pierce County on average spent

\$88 per visit/day²⁰



18%

of Mt. Rainier National Park visitors surveyed said that **bicycling was a preferred activity for future visits**²¹



Tourism is the

4TH LARGEST INDUSTRY

in WA State,²² and the Tahoma to Tacoma Trail Network could be the cornerstone of the Washington Tourism Alliance's and Travel Tacoma + Pierce County's new marketing programs

SPORTING
BAKERY
EST. 09

If the Main Alignment were completed today, Pierce County could see an increase of:



94

more jobs supported by tourism-related spending in Pierce County



76,500

more visitors per year



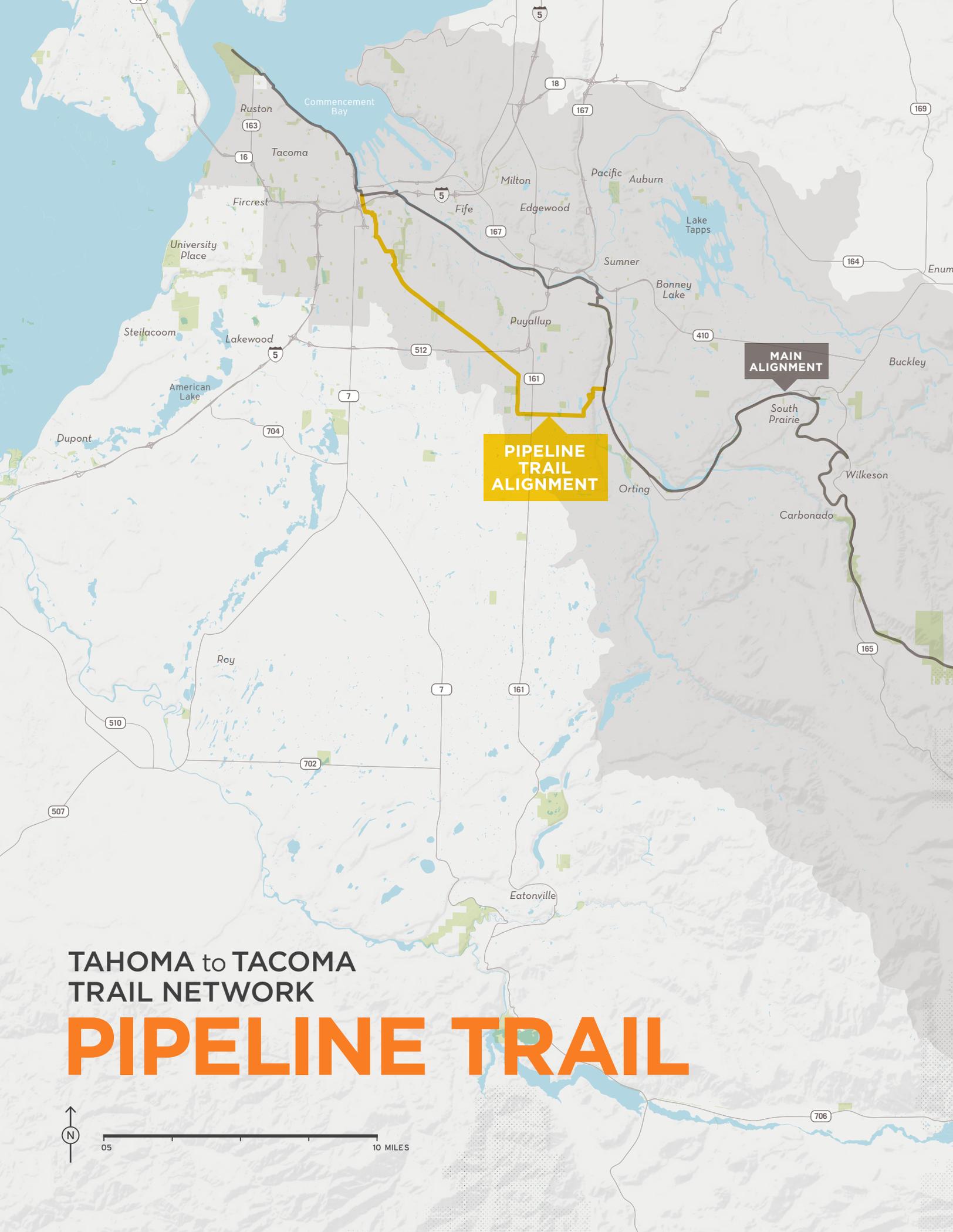
\$8,250,000

more tourism dollars generated per year



\$120,571,000

in one-time property value growth



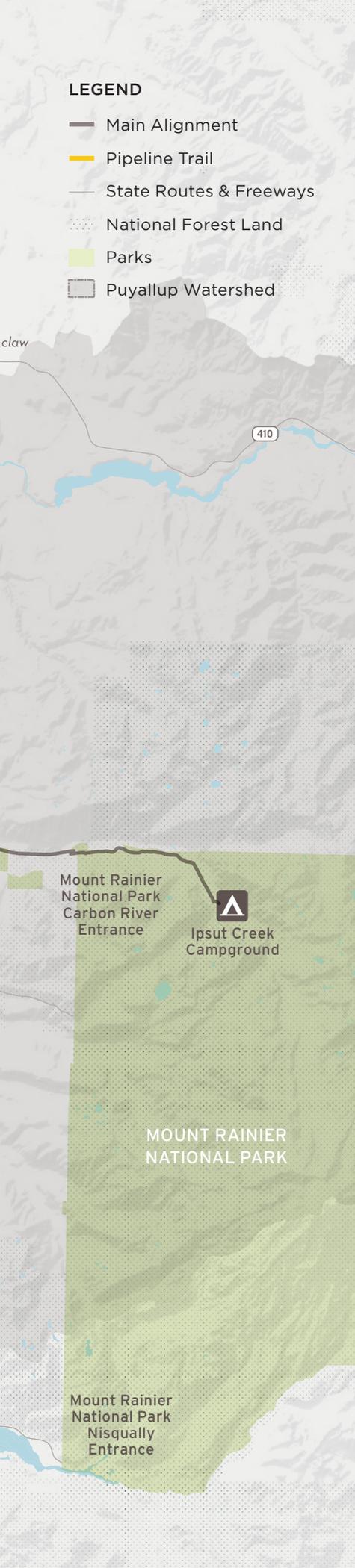
**TAHOMA to TACOMA
TRAIL NETWORK**

PIPELINE TRAIL



LEGEND

- Main Alignment
- Pipeline Trail
- State Routes & Freeways
- National Forest Land
- Parks
- Puyallup Watershed



The Puyallup Watershed Initiative envisions a connected trail network from Mount Rainier to Commencement Bay. This system will link new and existing trails and allow residents and visitors to walk, bicycle, and skateboard between key local and regional destinations.

The Tahoma to Tacoma Trail Network will connect local communities while showcasing our region’s natural beauty, from the glacial peak of Mount Rainier to the shores of the Puget Sound.

PIPELINE TRAIL ALIGNMENT SUMMARY

15,730 HOUSEHOLDS within 1/2 mile

105,559 HOUSEHOLDS within 3 miles

Approximately
15.4 MILES LONG

If the Pipeline Trail were completed today, it could provide:



\$1,088,000
per year in Health Benefits



\$2,424,000 per year
in Transportation Benefits



\$70,000 per year
in Environmental Benefits



\$2,033,000 per year
in Economic Benefits



\$81,873,000 in
one-time Property Value Benefits

TOTAL BENEFITS PER YEAR

\$5,615,000

PIPELINE TRAIL BENEFITS



HEALTH + EQUITY

BENEFITS

If the Pipeline Trail were completed today, Pierce County could see an increase of:



2,435,000

miles biked per year



544,000

miles walked per year



3,269

more residents getting a healthy amount of exercise



\$1,088,000

in total healthcare savings from walking and bicycling per year



Access for

12,683

households without a vehicle within 3 miles of the trail



Access for

37,616

people below the poverty line within 3 miles of the trail

TRANSPORTATION + ENVIRONMENTAL

BENEFITS

If the Pipeline Trail were completed today, Pierce County could experience:



2,090,000

Fewer miles traveled by automobiles



\$1,191,000

In reduced household vehicle operation costs per year



\$167,000

In reduced congestion-related costs per year



\$753,000

in reduced collision-related costs per year



\$70,000

in total environmental cost savings from reduced vehicle emissions per year



6,153,000 lbs

of CO2 Emissions Diverted

ECONOMIC + PROPERTY VALUE

BENEFITS

If the Pipeline Trail were completed today, Pierce County could see an increase of:



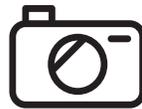
23

more jobs supported by tourism-related spending in Pierce County



25,500

more visitors per year



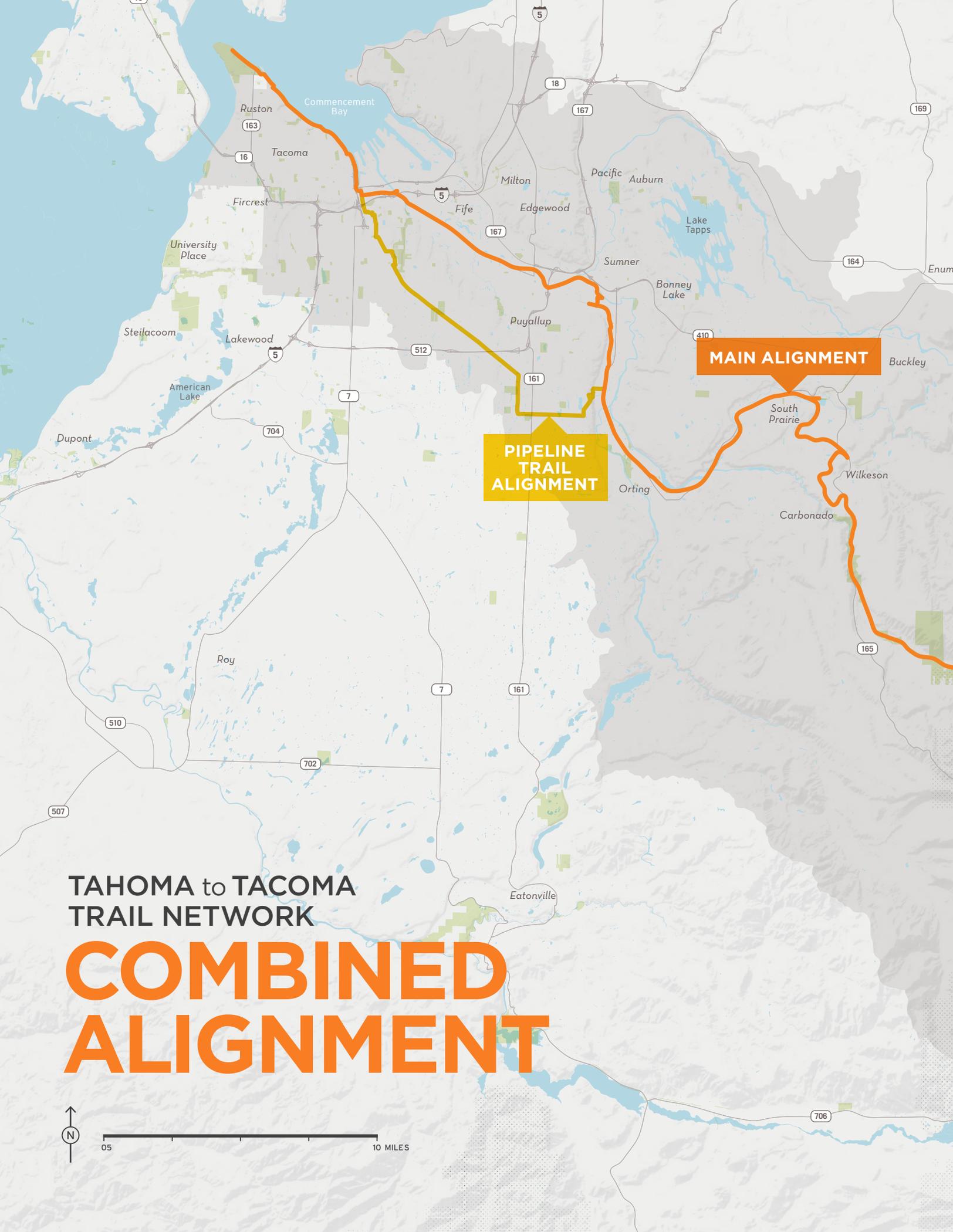
\$2,033,000

more tourism dollars generated per year



\$81,873,000

in one-time property value growth



MAIN ALIGNMENT

PIPELINE TRAIL ALIGNMENT

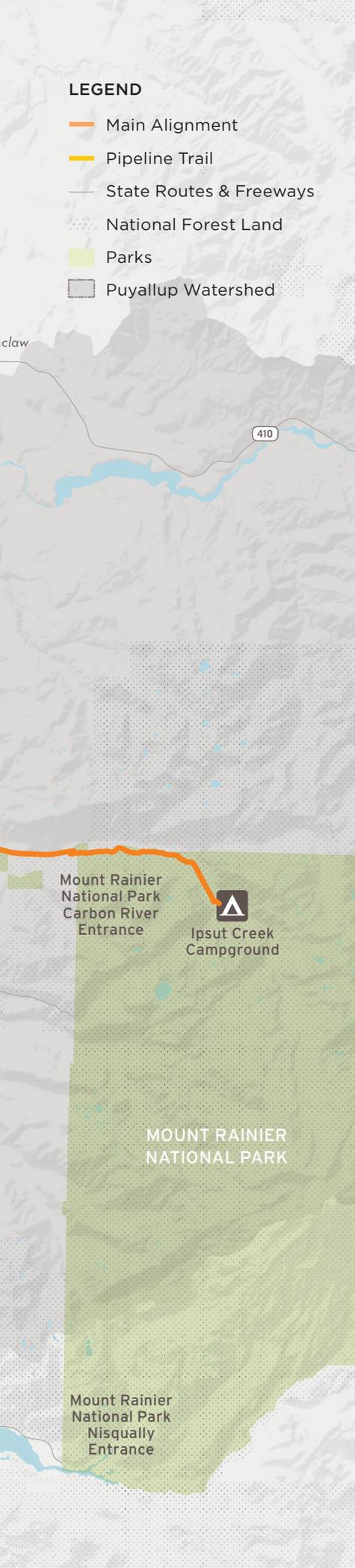
TAHOMA to TACOMA TRAIL NETWORK

COMBINED ALIGNMENT



LEGEND

- Main Alignment
- Pipeline Trail
- State Routes & Freeways
- ▨ National Forest Land
- ▨ Parks
- ▨ Puyallup Watershed



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COMBINED ALIGNMENT SUMMARY

38,046 HOUSEHOLDS within 1/2 mile

286,605 HOUSEHOLDS within 3 miles

Approximately **77.8** MILES LONG

If the Main Alignment and Pipeline Trail Alignment were completed today, it could provide:



\$1,971,000 per year in **Health Benefits**



\$4,255,000 per year in **Transportation Benefits**



\$122,000 per year in **Environmental Benefits**



\$10,270,000 per year in **Economic Benefits**



\$191,120,000 in one-time **Property Value Benefits**

TOTAL BENEFITS PER YEAR

\$16,618,000

COMBINED ALIGNMENT BENEFITS



HEALTH + EQUITY

BENEFITS

If the Combined Alignment were completed today, Pierce County could see an increase of:

 **3,733,000**
miles biked per year

 **1,299,000**
miles walked per year

 **6,200**
more residents getting a healthy amount of exercise

 **\$1,971,000**
in total healthcare savings from walking and bicycling per year

 Access for **15,564** households without a vehicle within 3 miles of the trail

 Access for **57,023** people below the poverty line within 3 miles of the trail

TRANSPORTATION + ENVIRONMENTAL

BENEFITS

If the Combined Alignment were completed today, Pierce County could experience:



3,670,000

Fewer miles traveled by automobiles



\$2,091,000

In reduced household vehicle operation costs per year



\$293,000

In reduced congestion-related costs per year



\$1,321,000

in reduced collision-related costs per year



\$122,000

in total environmental cost savings from reduced vehicle emissions per year



10,144,000 lbs

of CO2 Emissions Diverted

ECONOMIC + PROPERTY VALUE

BENEFITS

If the Combined Alignment were completed today, Pierce County could see an increase of:



116

more jobs supported by tourism-related spending in Pierce County



100,500

more visitors per year



\$10,270,000

more tourism dollars generated per year



\$191,120,000

in one-time property value growth



PIERCE COUNTY PROFILE

The following profile gives an overview of Pierce County existing health, equity, transportation, environmental, economic, and property value characteristics.

The development of the Tahoma to Tacoma Trail Network would have a direct impact on these metrics.

HEALTH + EQUITY

PIERCE COUNTY ACTIVITY PROFILE



20%

of the population is physically inactive ¹²



11%

of Pierce County residents do not have access to exercise opportunities ¹³



31%

of the adult population is obese ¹⁴



Diabetes costs Pierce County

\$322 MILLION

per year ¹⁵

TRANSPORTATION + ENVIRONMENTAL

PIERCE COUNTY ACTIVITY PROFILE



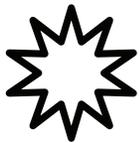
\$8,220

Average cost of operating a car per year ¹⁶



\$308

Average cost of operating a bike per year ¹⁷



222

Youth hit by cars while walking or biking in Tacoma from 2010-2014 ¹⁸

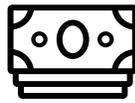


4.7%

of all local trips in Pierce County are made by walking ¹⁹

ECONOMIC + PROPERTY VALUE

PIERCE COUNTY ACTIVITY PROFILE



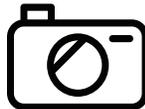
Visitors to Pierce County on average spent

\$88 per visit/day ²⁰



18%

of Mt. Rainier National Park visitors surveyed said that **bicycling was a preferred activity for future visits** ²¹



Tourism is the

4TH LARGEST INDUSTRY

in WA State,²² and the Tahoma to Tacoma Trail Network could be the cornerstone of the Washington Tourism Alliance's and Travel Tacoma + Pierce County's new marketing programs



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