

# The Executive Network of Seattle

## Highways and Transportation Separating Myth from Reality

by

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Chairman, Eastside Transportation Association

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# Basics

Highways of Statewide Significance (HSS) are the backbone of our transportation system

WSDOT owns, designs, builds, operates & maintains our HSS

Highways are corridors, transit is a mode of travel – they are not in conflict.

# The Questions

Why do Americans travel?

How do Americans travel?

How does density affect travel?

How is transit performing?

Will our regional plan reduce congestion?

What's happening to air quality?

Why is there a focus on the work trip?

How important is working at home?

In other words, know your customer

# Data Sources

USDOT, National Household Travel Survey, 2001  
(a 22,000 household sample)

Census Bureau, 2000 Census

FHWA, Highway Statistics

PSRC, Destination 2030 (adopted Metropolitan  
Transportation Plan), 2004 Review

National Transit Database

EPA

APTA (American Public Transit Association)

# U.S. AVERAGE MODE OF

**School Bus**

2%

**Walk**  
9%

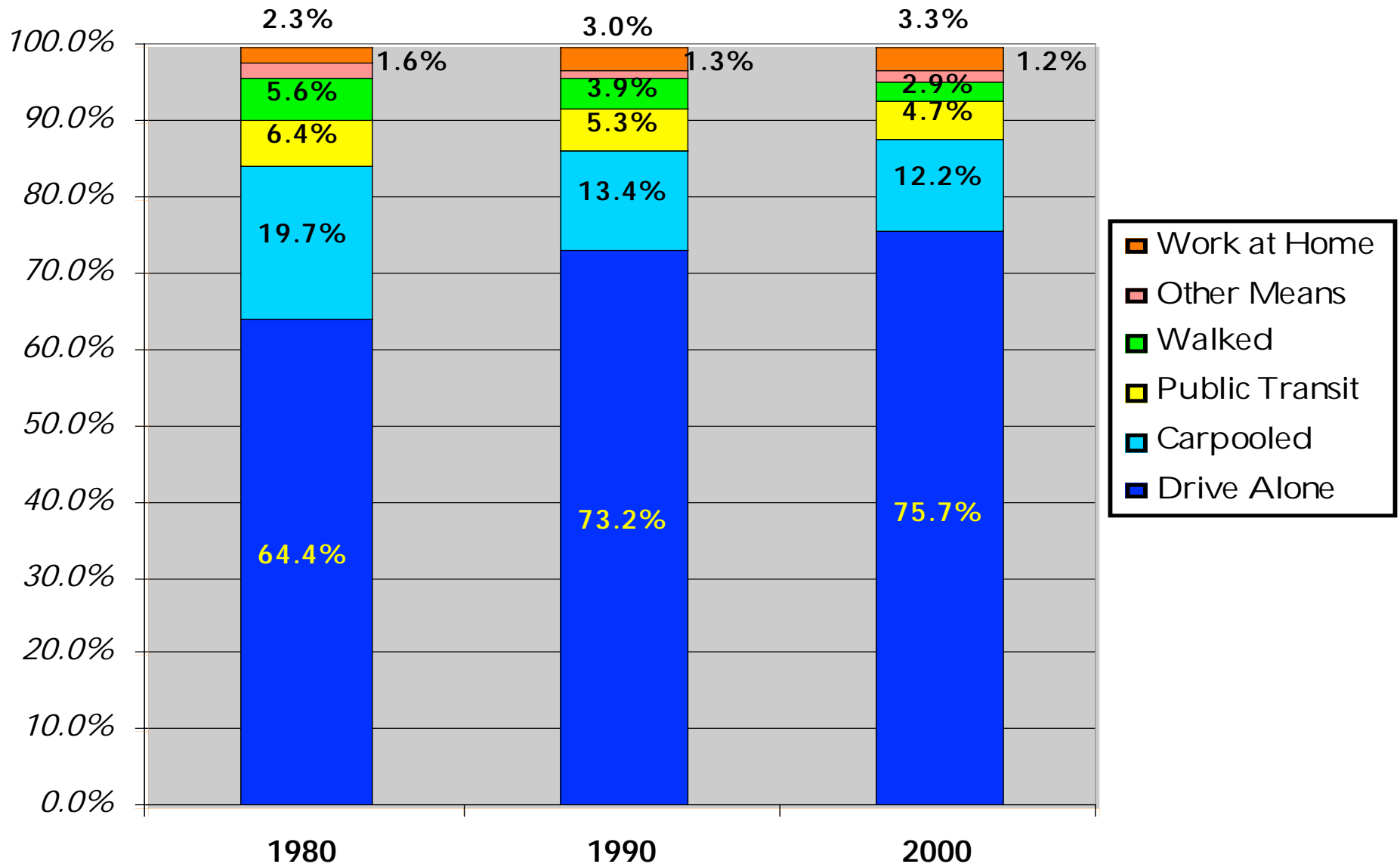
**Other**  
2%

**Transit**  
1%

**Cars,  
Trucks,  
Vans**  
86%

Source: NHTS 2001

# Trend of Commute Mode



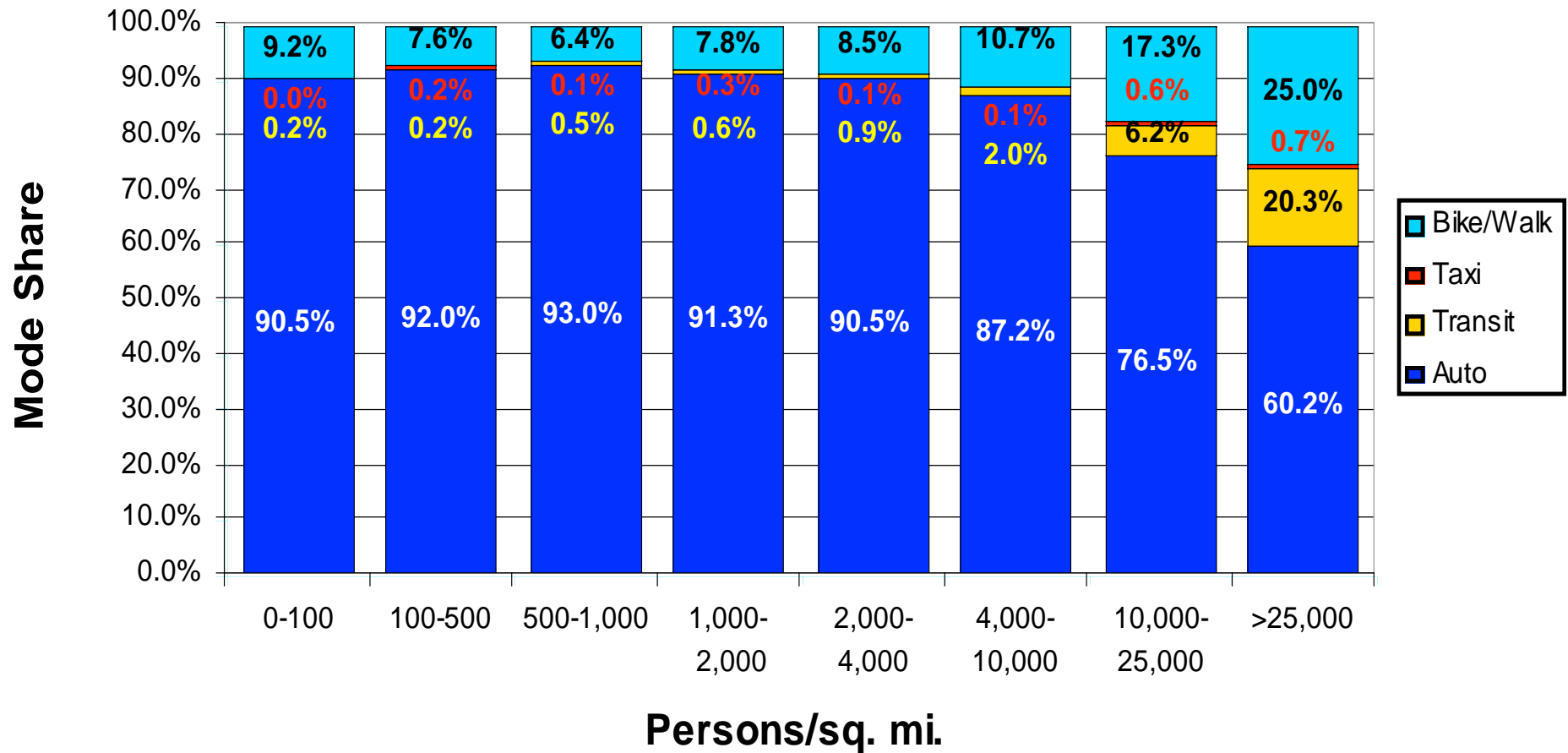
# U.S. AVERAGE TRIP PURPOSE



Source: NHTS 2001

# Mode Share vs. Density

(National, Urban, without New York area)

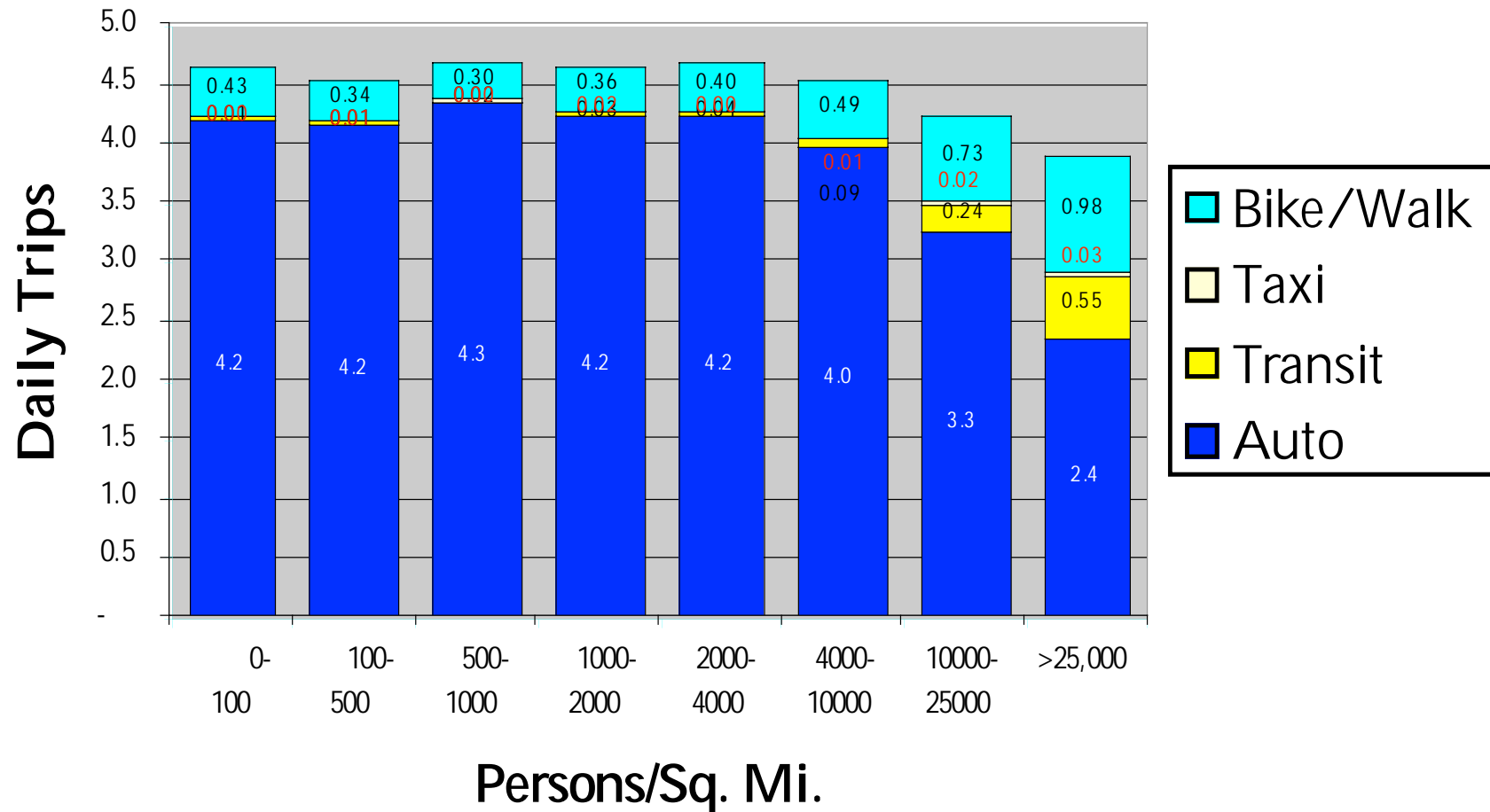


#2103 05 Aug 04 H/2103/Data/National/Mode Share by Density.xls - National Urban w o NY



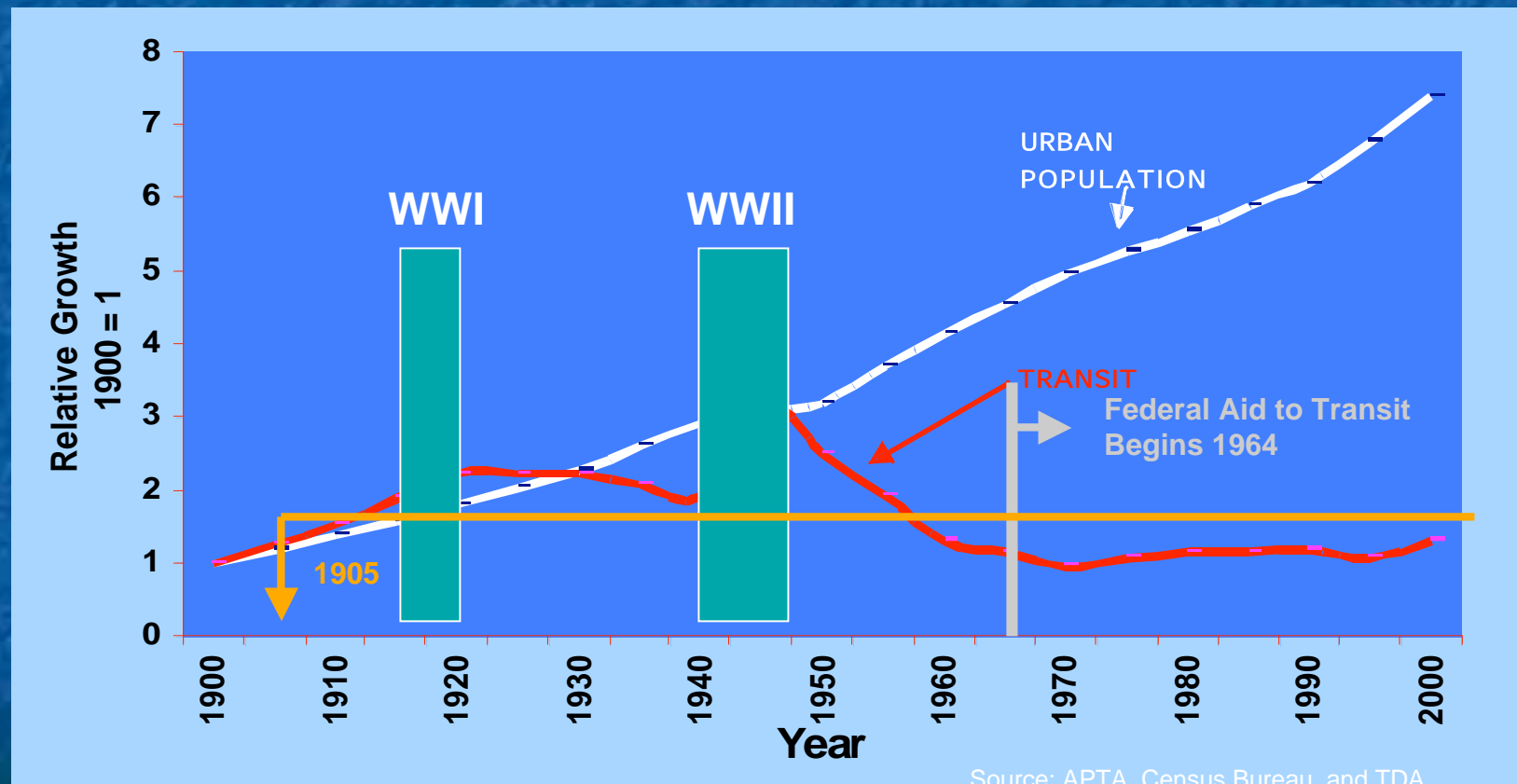
# DAILY TRIPS/PERSON

## (National, Urban, w/o New York area)

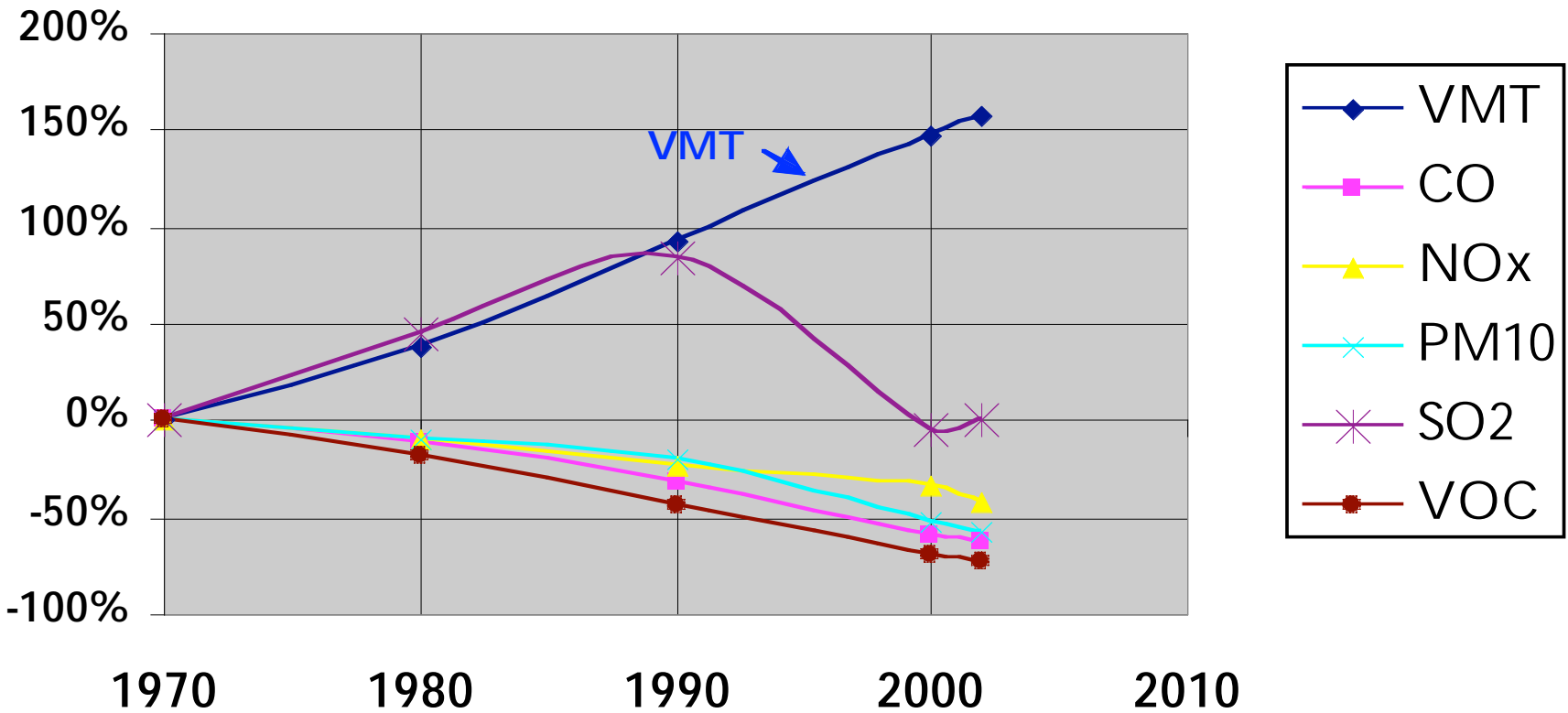


2103/data/National/N urv wo NY/

# U.S. Transit Ridership Compared to Urban Population

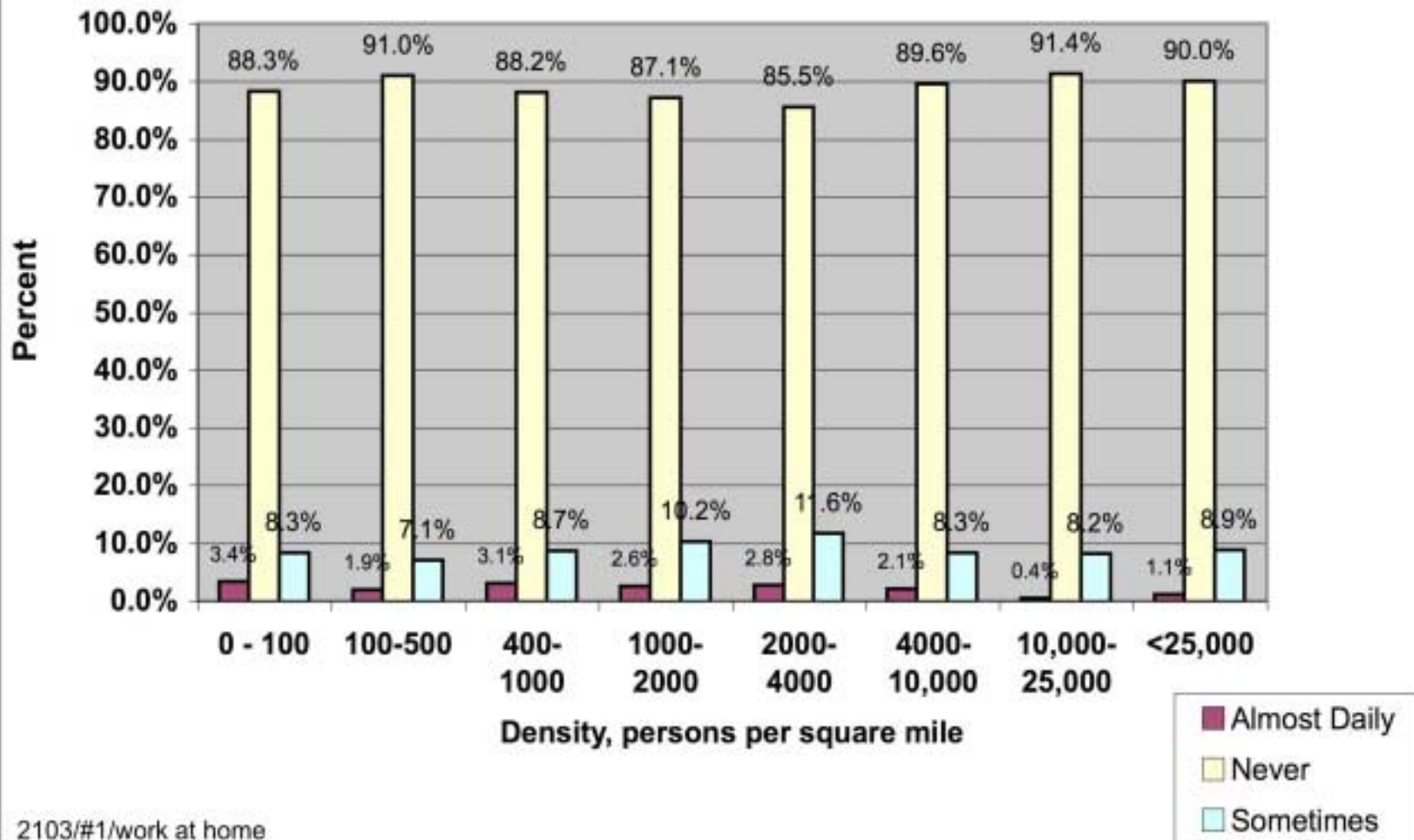


# GROWTH COMPARISON: Vehicle-Miles Traveled (VMT) & Emissions (U.S.)



Data Sources: EPA "Trends", FHWA

## Percent Working at Home (West Coast)



2103/#1/work at home

# REGIONAL

# Transit's Successes



Elderly and  
Handicapped

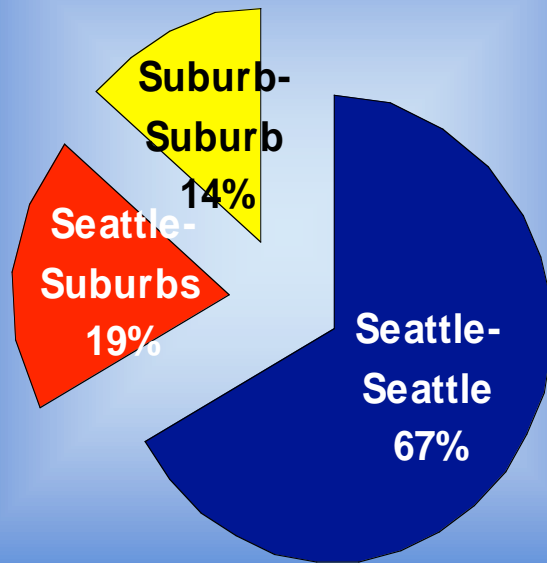
Downtown  
Seattle

University  
District

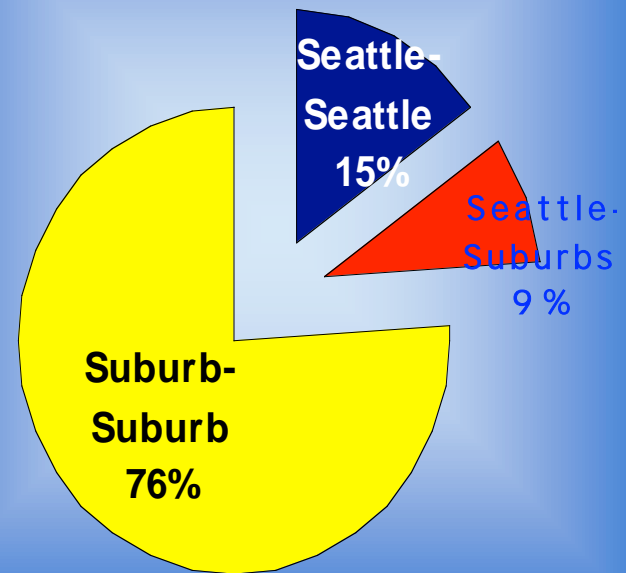
Downtown Bellevue

# City of Seattle Dominates Transit Trips

## 2020 Transit Trips



## 2020 All Person-Trips

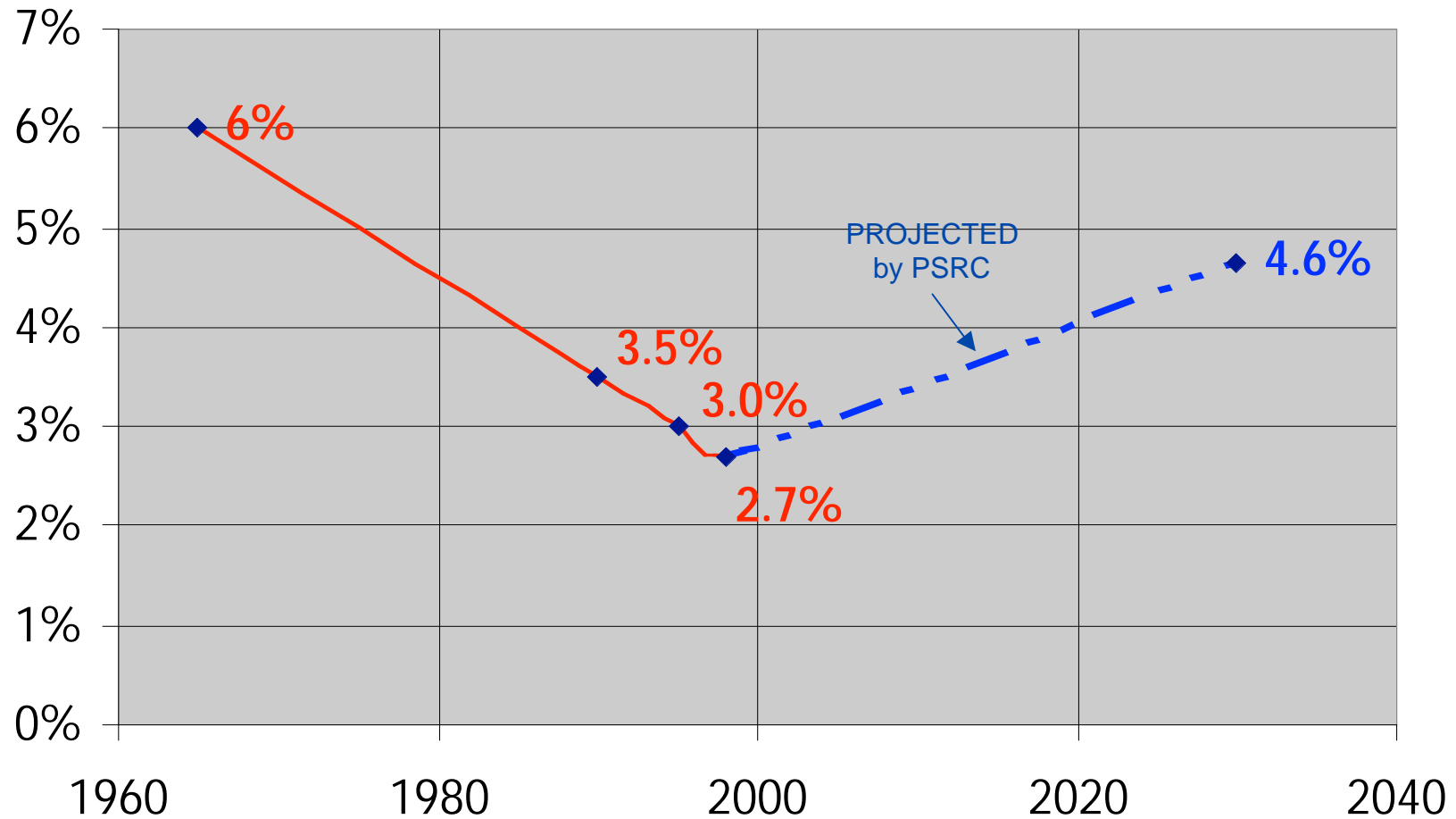


# Another Success: Vanpools



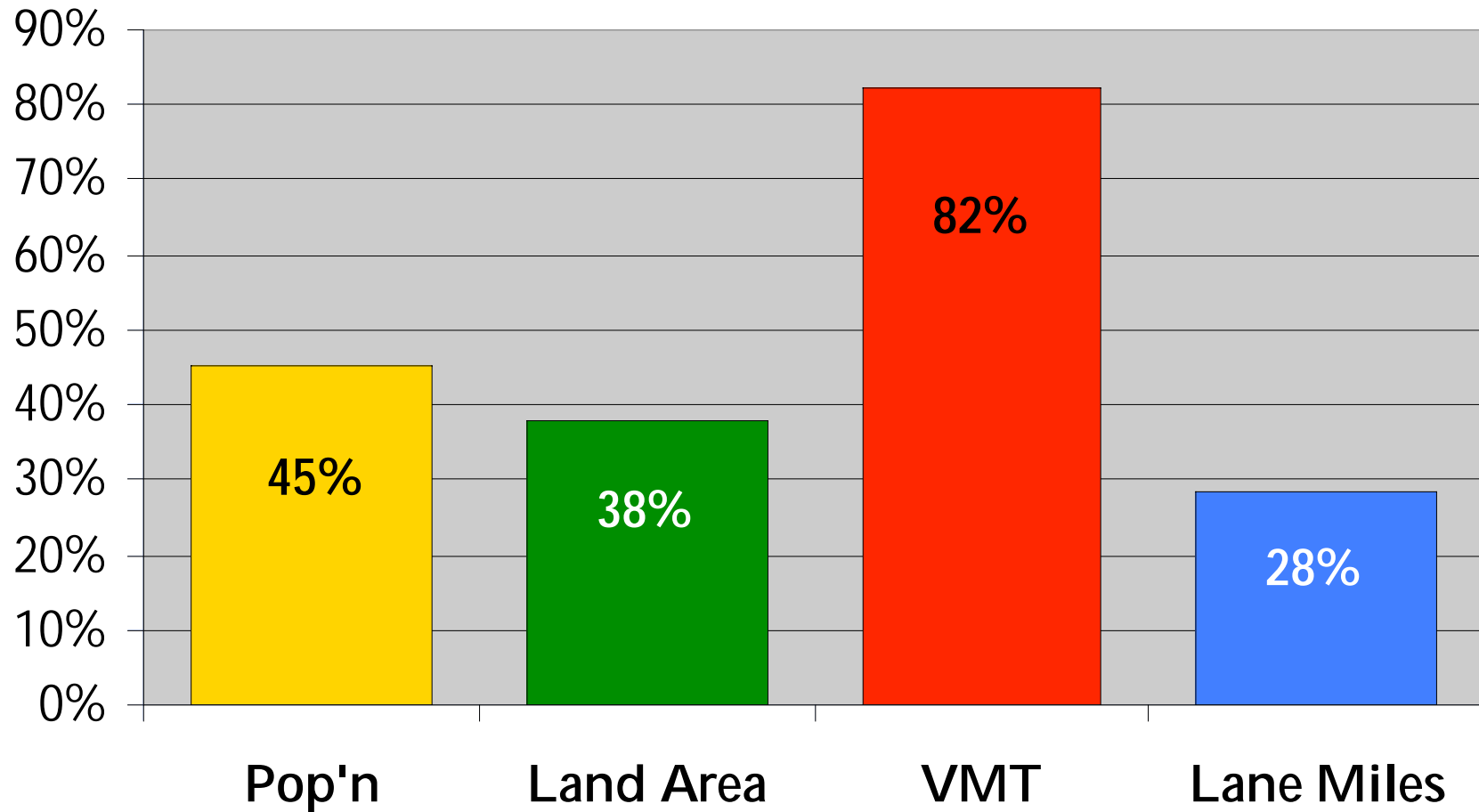


## Percent of Daily Person-Trips by Transit (Central Puget Sound)

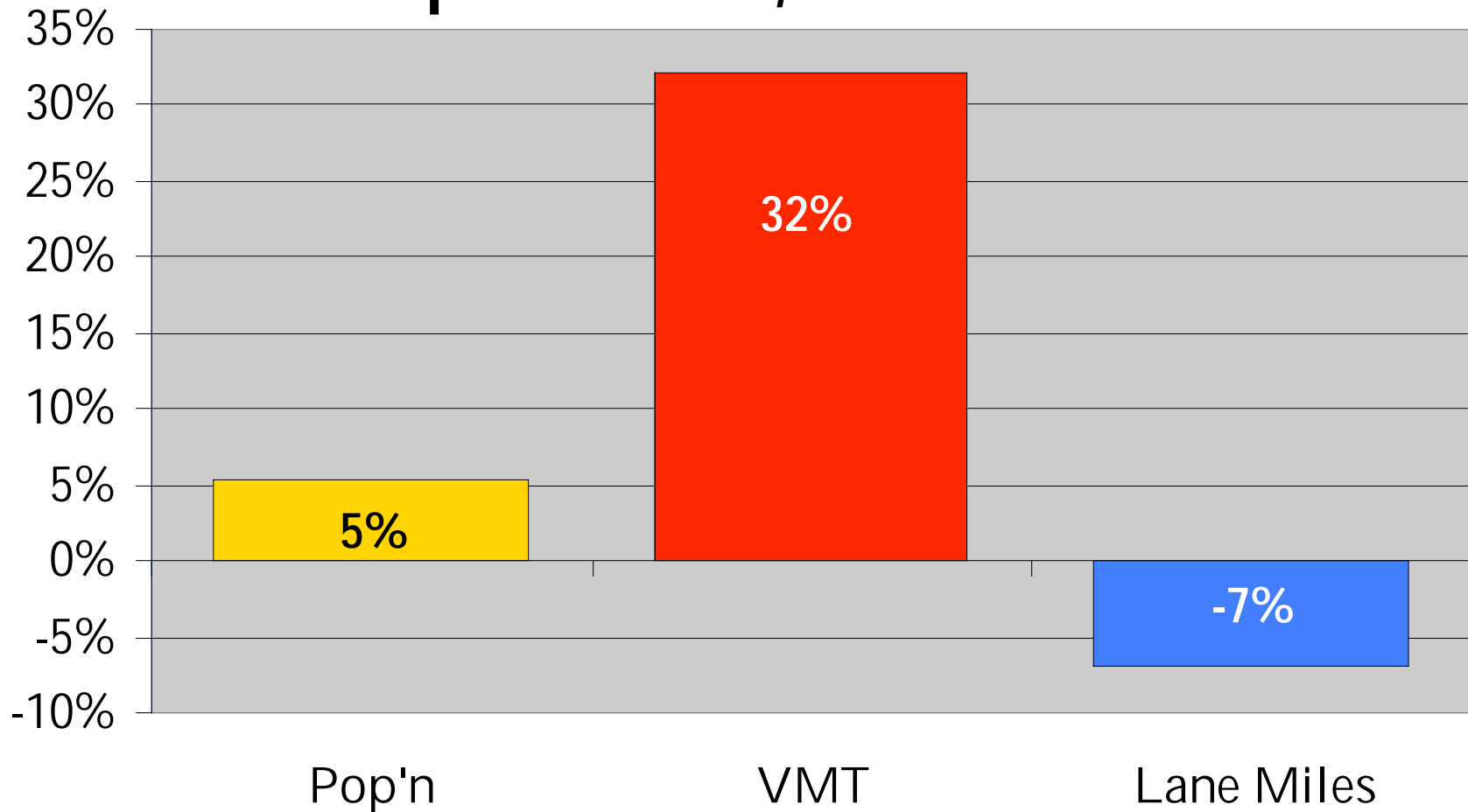


(Source: PSRC)

## Seattle Urbanized Area Growth, 1982-2002

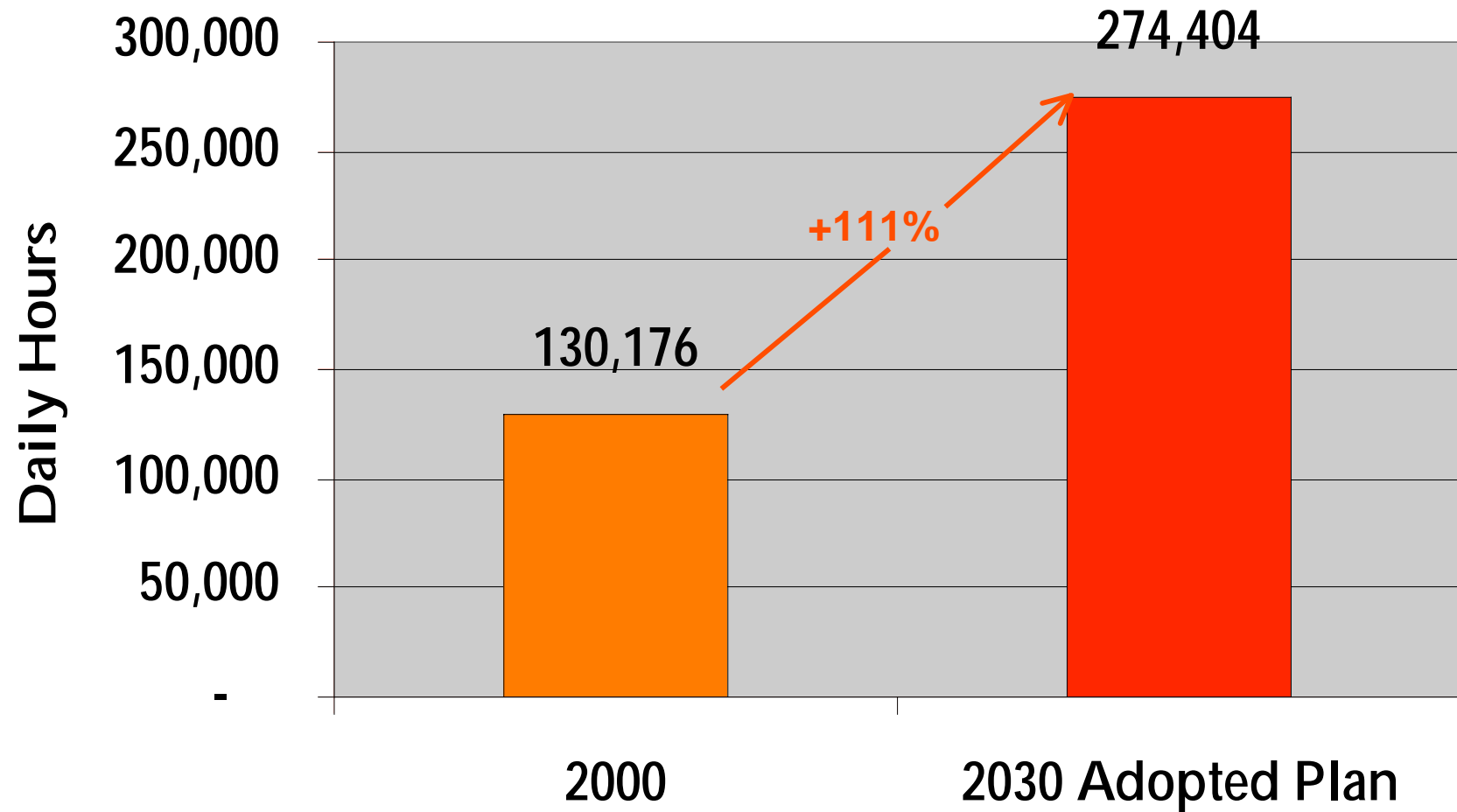


# Seattle Urbanized Area Growth Per Square Mile, 1982-2002

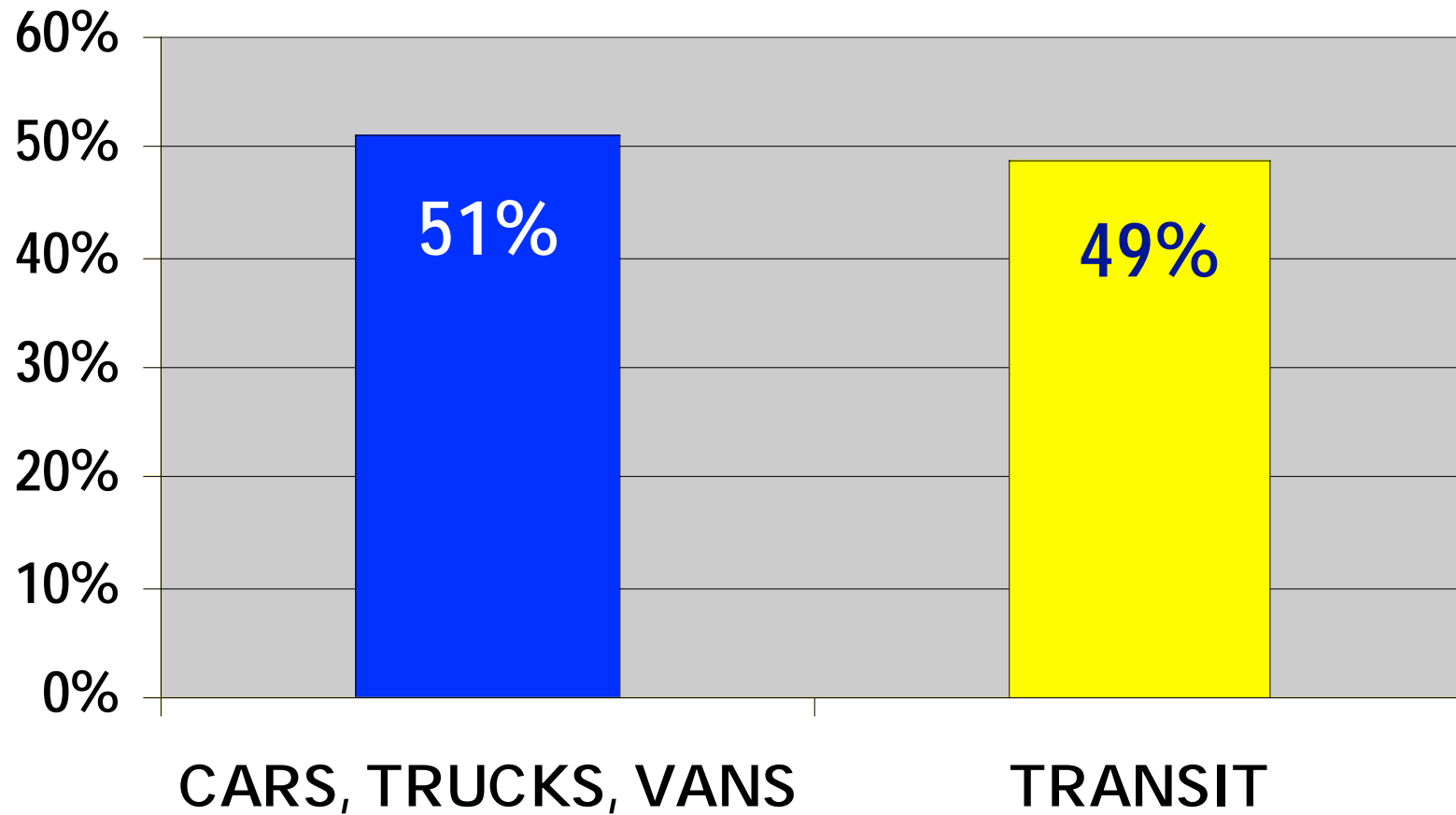


# DAILY HOURS OF DELAY

(PSRC Metropolitan Transportation Plan)

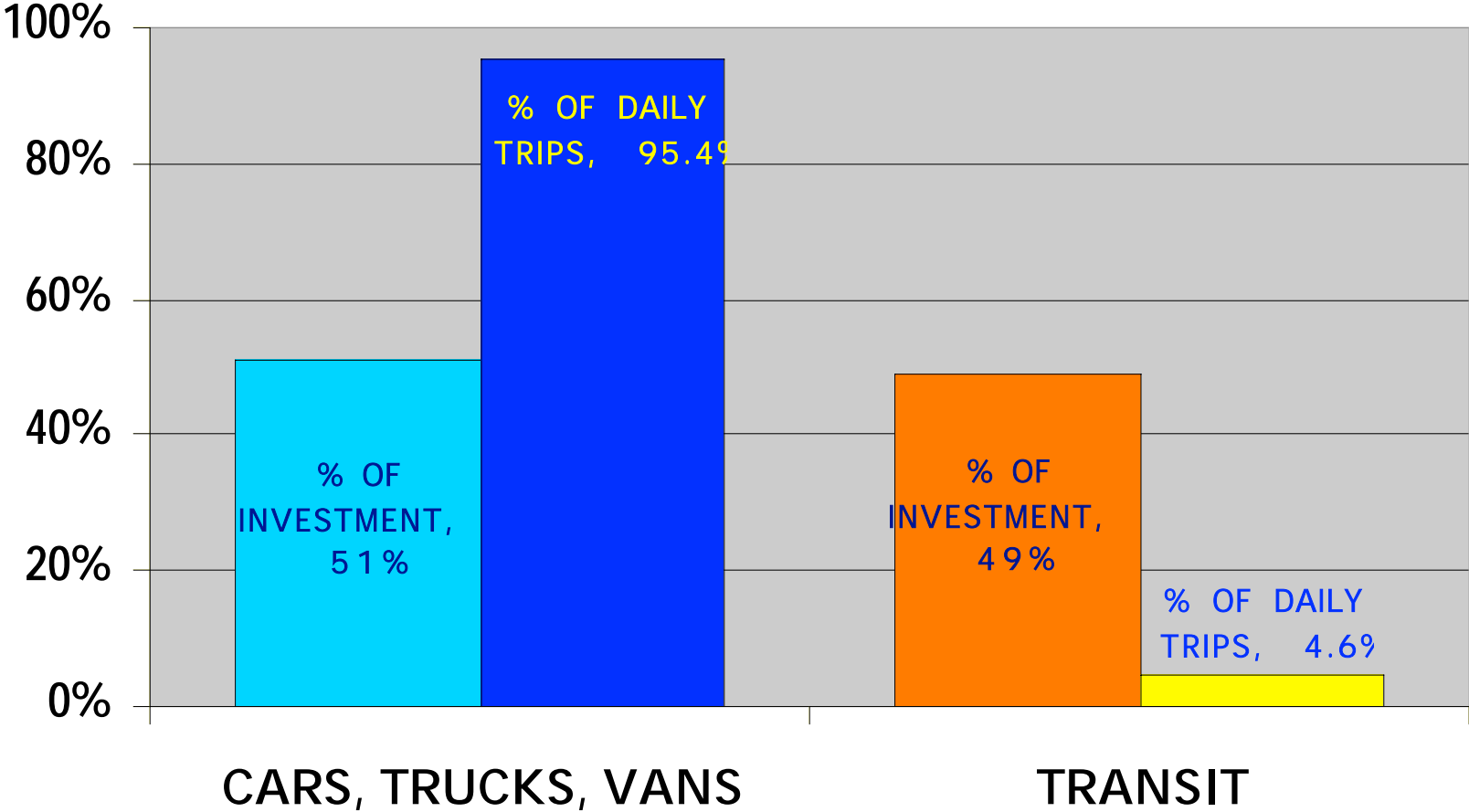


## PUGET SOUND PUBLIC INVESTMENT SHARE THROUGH 2030 (Capital + O&M)



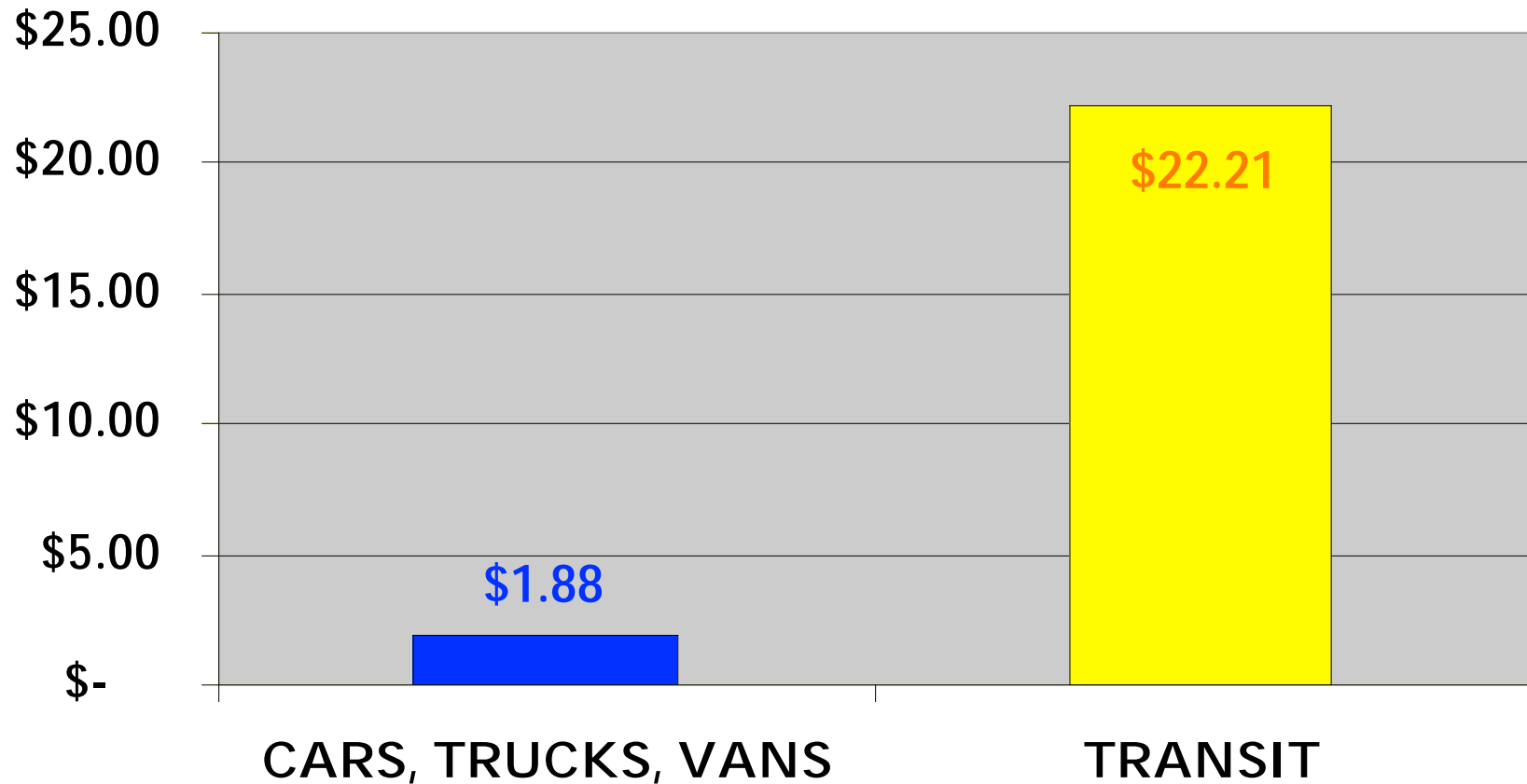
Source: PSRC, 2004 Review

# PUGET SOUND PUBLIC INVESTMENT THROUGH 2030 (COMPARED TO MARKET SHARE)



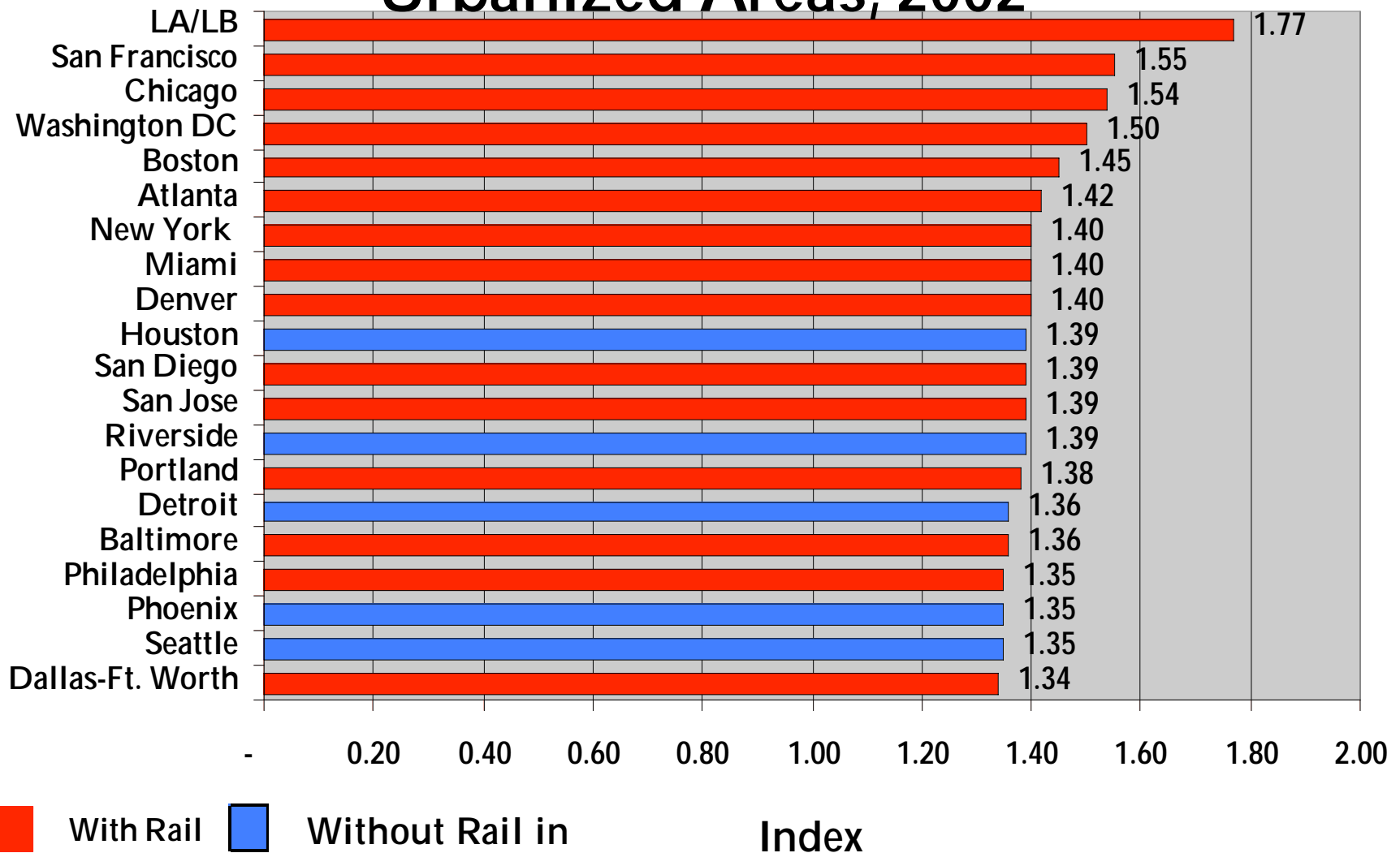
Source: PSRC, 2004 Review

# PUBLIC INVESTMENT PER ADDED PERSON-TRIP, 2000 to 2030 (Puget Sound)



Source: PSRC, 2004 Review and TD

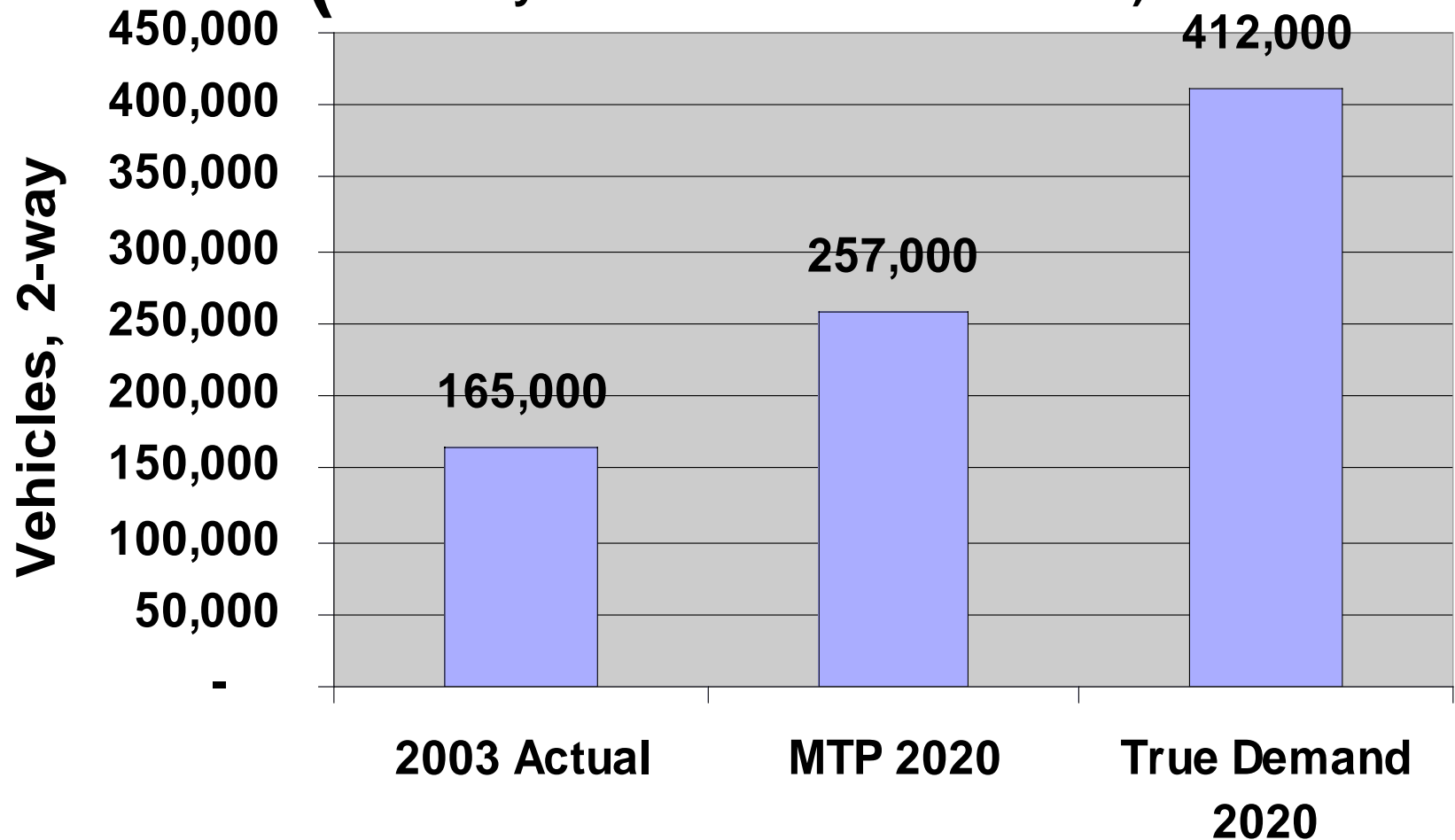
# Travel Time Index, 20 Highest-Delay Urbanized Areas, 2002





# I-5 is Broken and Gets Worse

(Weekday Volumes North of Jackson)



# *I-405 Corridor Program*

## **THERE ARE TWO BASELINE CASES FOR COMPARISON:**

**2020 True Demand:** this shows where travelers would be if they were not constrained by the artificial limits of roadway capacity.

**2020 No Action:** this assumes only continuation of existing programs and completion of those already funded (VERIFY!!)

## **THE SEVEN THEMES:**

**Theme 1 - Transportation Demand Management (TDM):** reduced transit fares, parking pricing, ridesharing agreements.

**Theme 2 – Transit/HOV:** add 1 HOV lane in each direction on I-405, direct access ramps, arterial HOV lanes, increase transit service, moderate TDM

**Theme 3 – High Capacity Transit:** grade separated HCT with feeder buses, arterial HOV/transit priority, moderate TDM

**Theme 4 - Arterial Capacity:** basic I-405 improvements, expand arterials (including East King County), moderate TDM

**Theme 5 – General Purpose Capacity:** add 2 general purpose lanes each direction on I-405, widen connecting arterials, other roadway improvements, moderate TDM

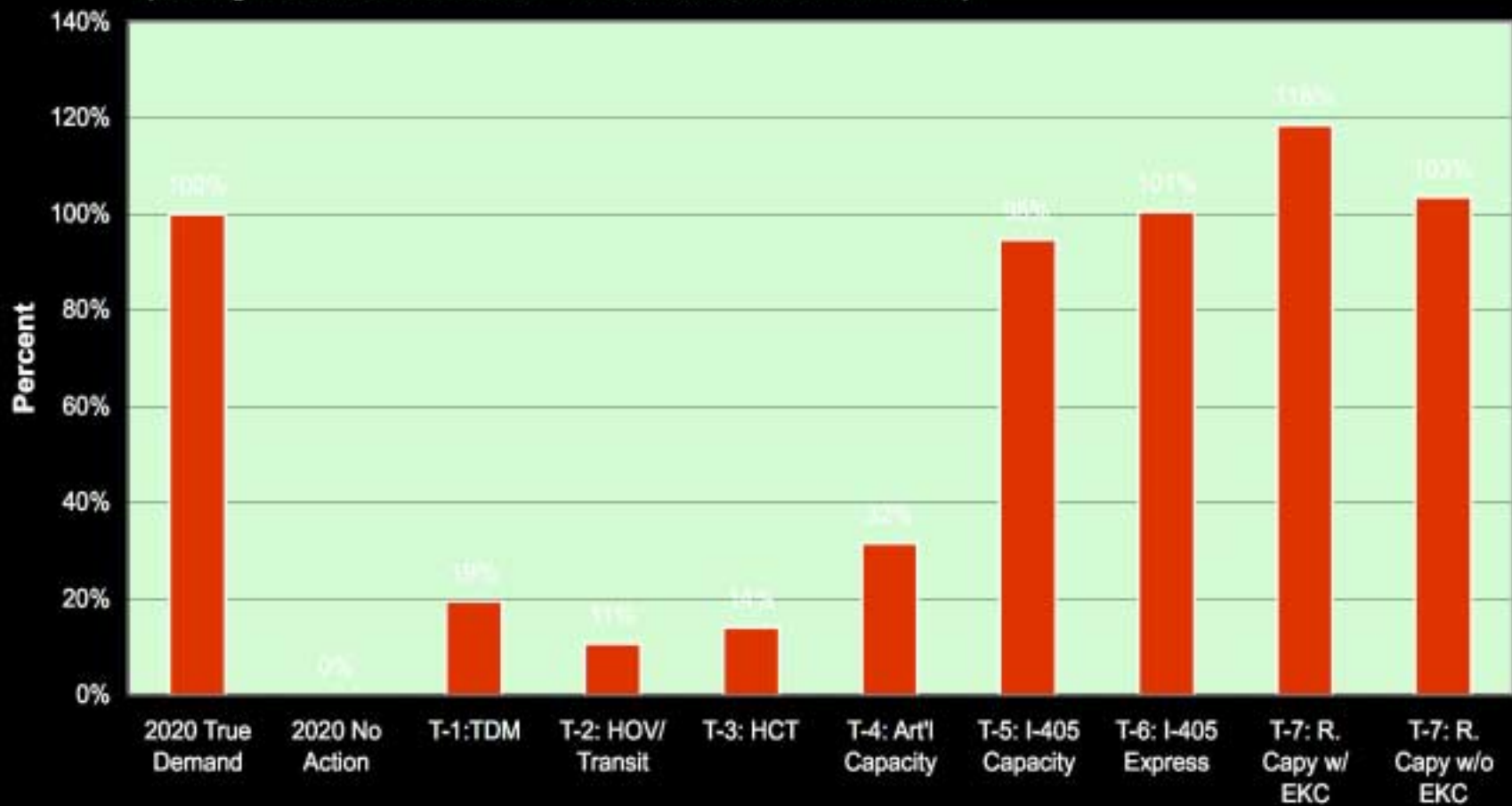
**Theme 6 – Express Lanes:** add 2 express lanes each direction, grade separated, widen SR 167 by 1 lane each direction, other road improvements, moderate TDM

**Theme 7A – Roadway Capacity:** add 2 general purpose lanes each direction on I-405, expand arterials (more than twice as much as in Theme 5), construct East King County Freeway, other roadway improvements, moderate TDM

**Theme 7B – Roadway Capacity:** same as Theme 7A, but omits East King County Freeway.

## PERCENT OF UNMET TRUE DEMAND SERVED BY EACH THEME

(Average of Three Scenelines -- 2020, CAPACITY ADJUSTED)



Source: Derived from I-405 Corridor Program Data

# Daily Cost per Added Person Served

Average of 3 Screenlines, Capacity Adjusted Figures, 2020



# more on DENSITY

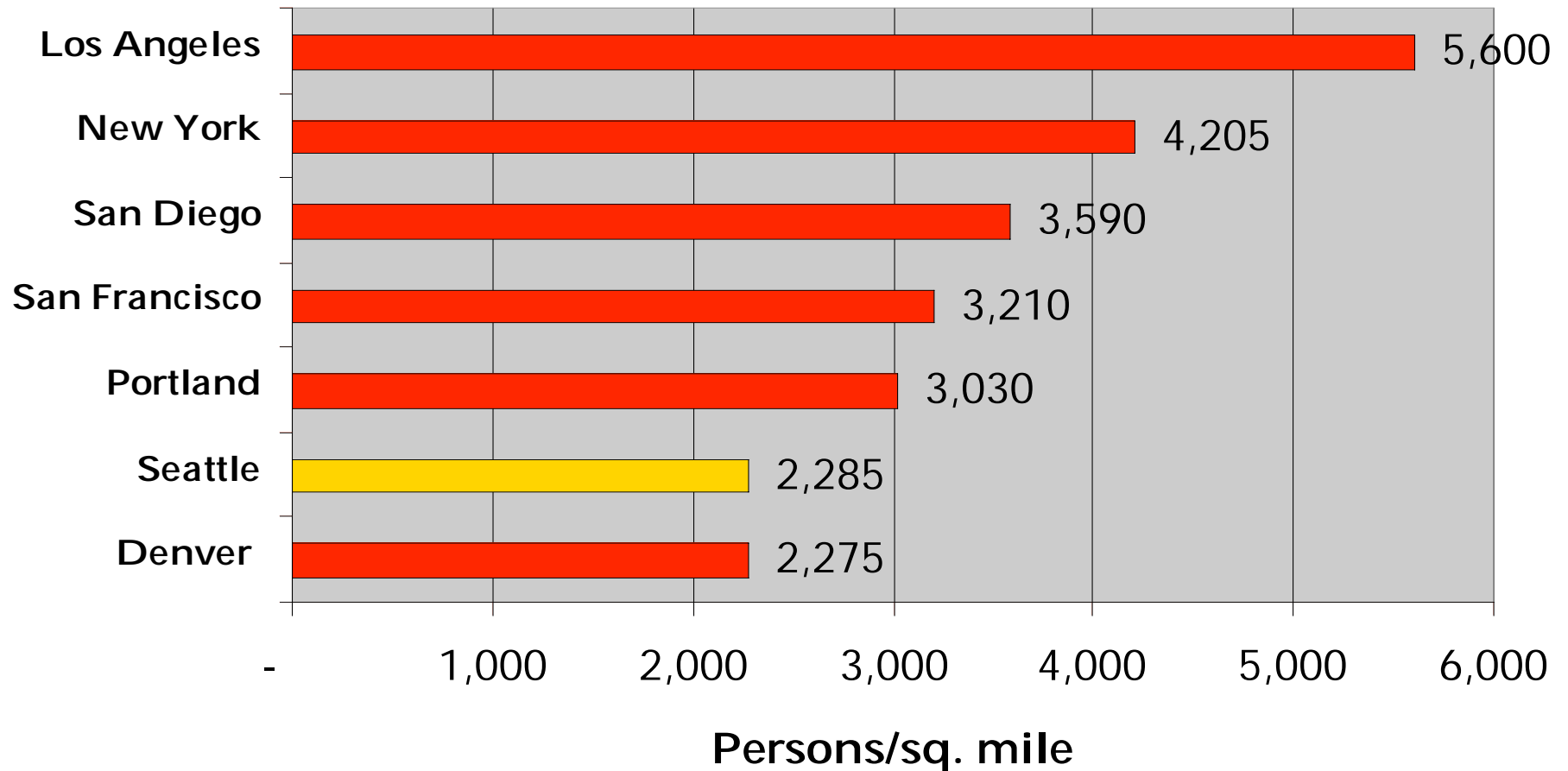






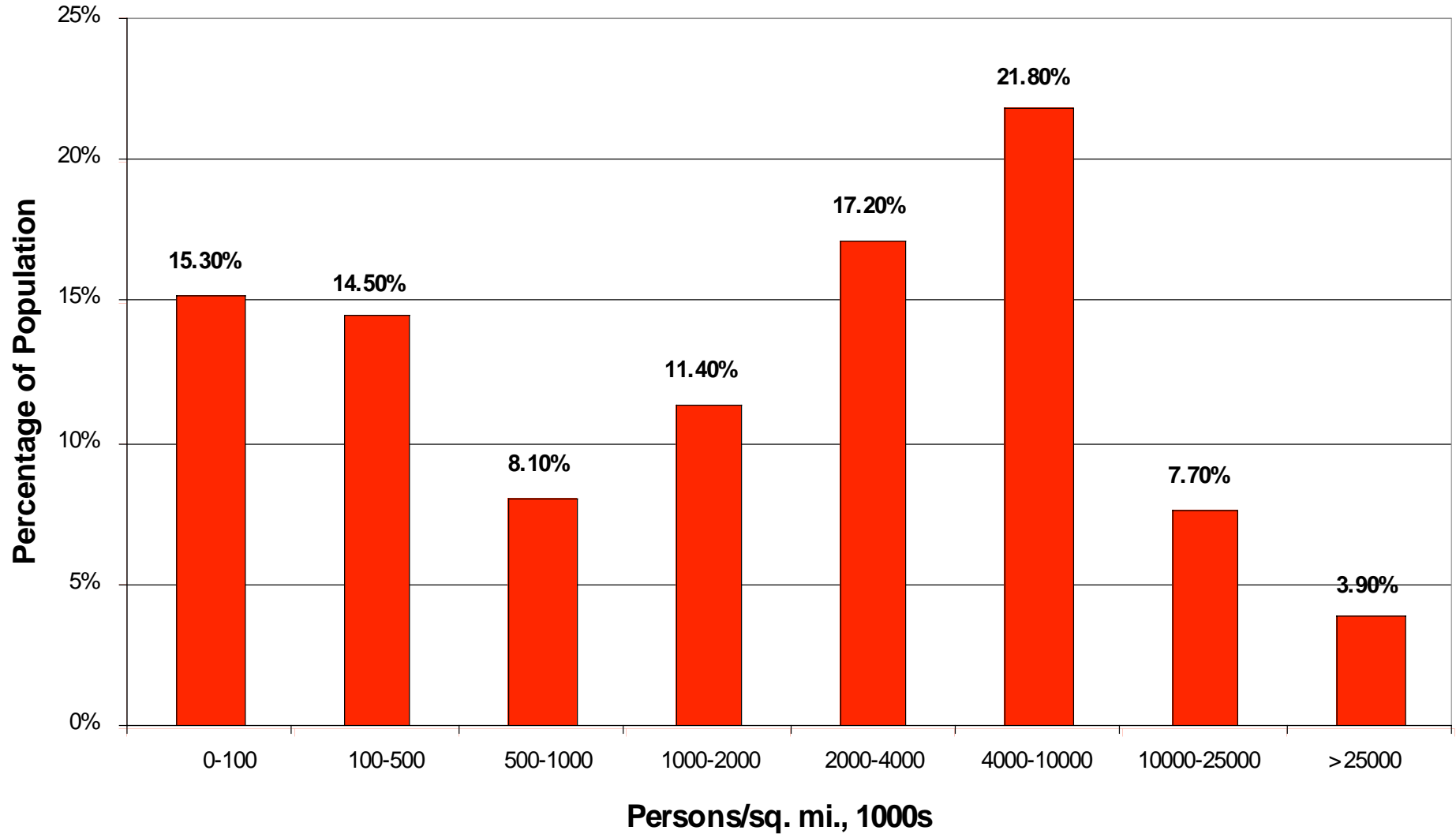


# Density of Selected Urbanized Areas (2000)



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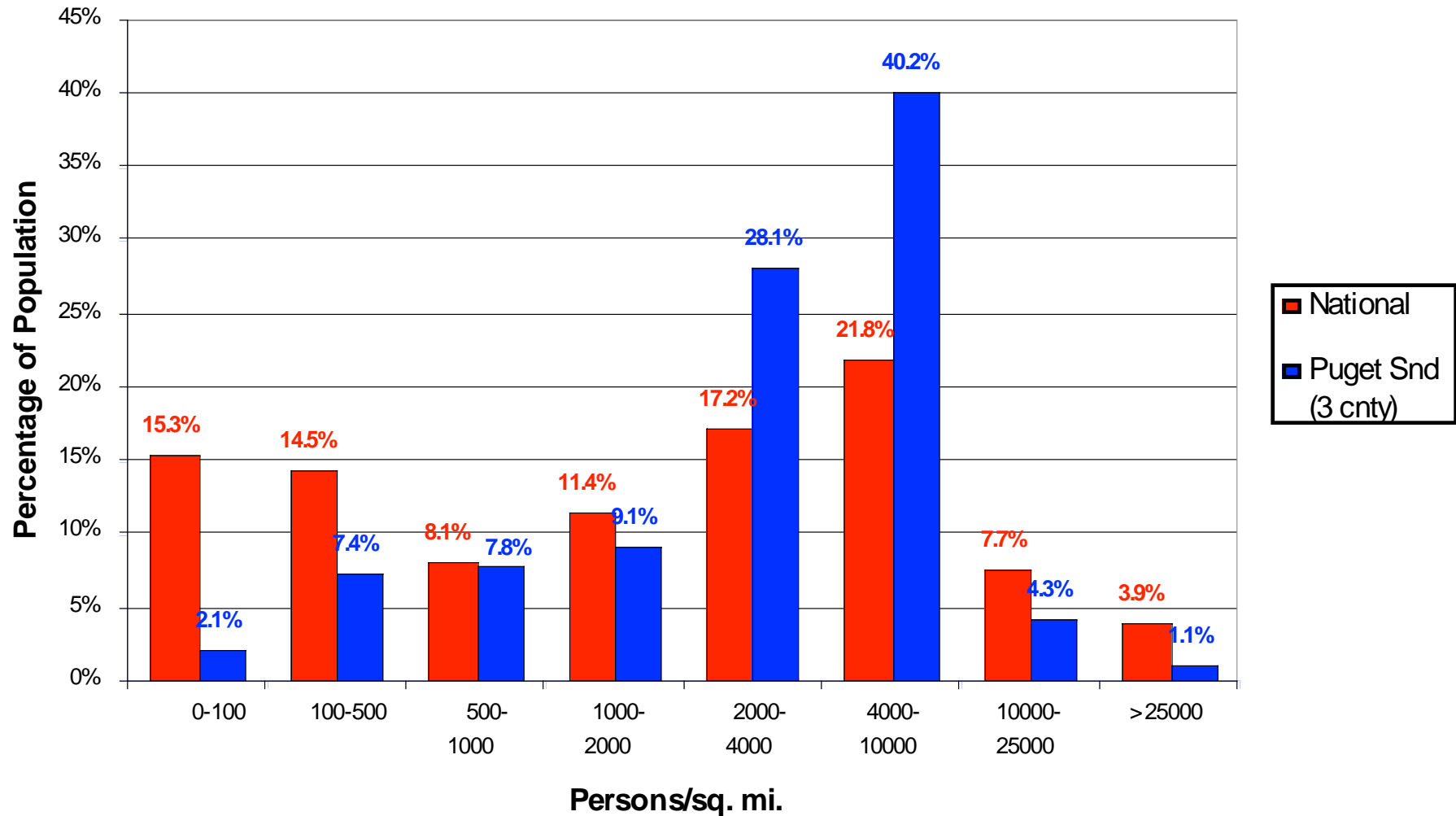
# U.S. Population by Density Groups



H:/2103/Data/Census/3 Cnty Census Tr 2000.xls - US-3 County Comparison tab

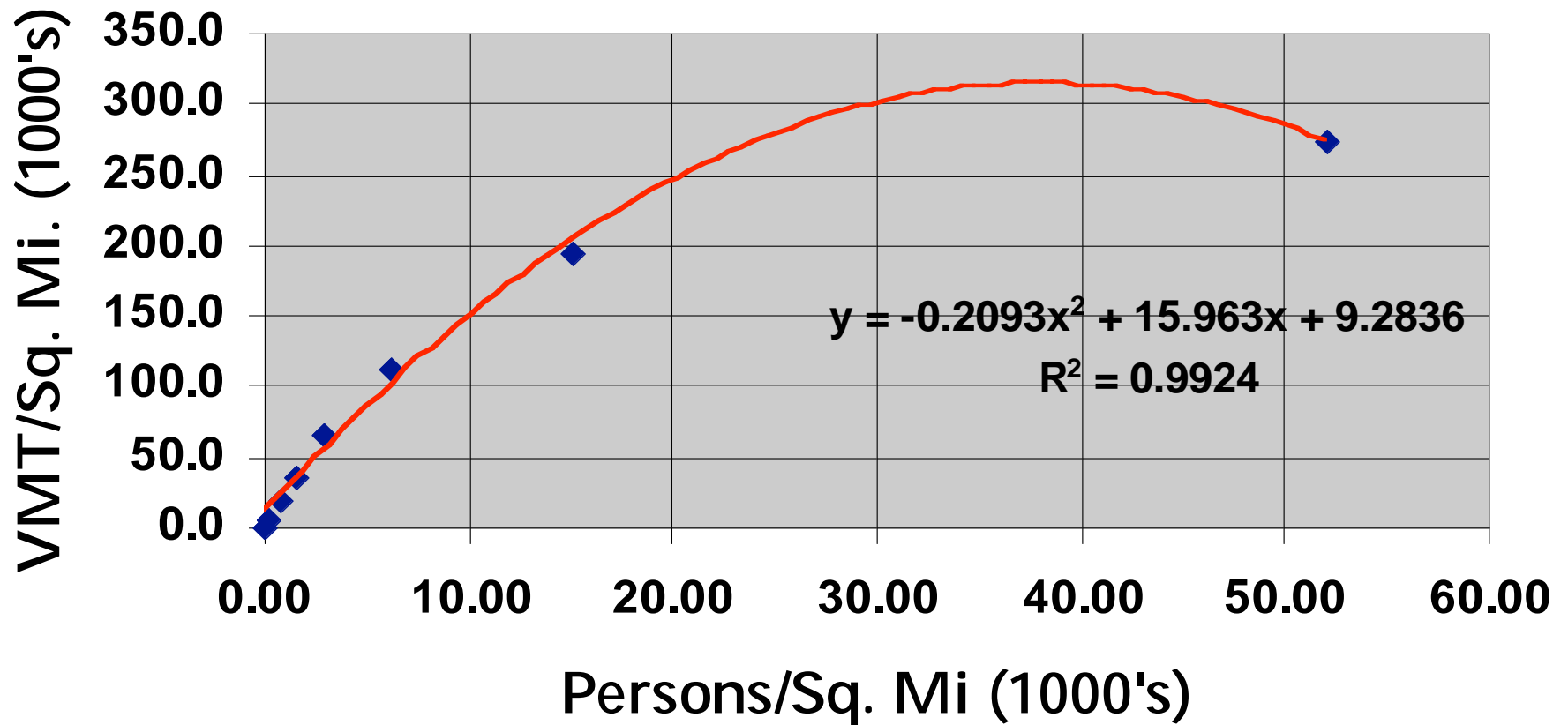
# Population by Density Groups for US & Puget Sound

(2000, by Census Tract, King/Pierce/Snohomish)



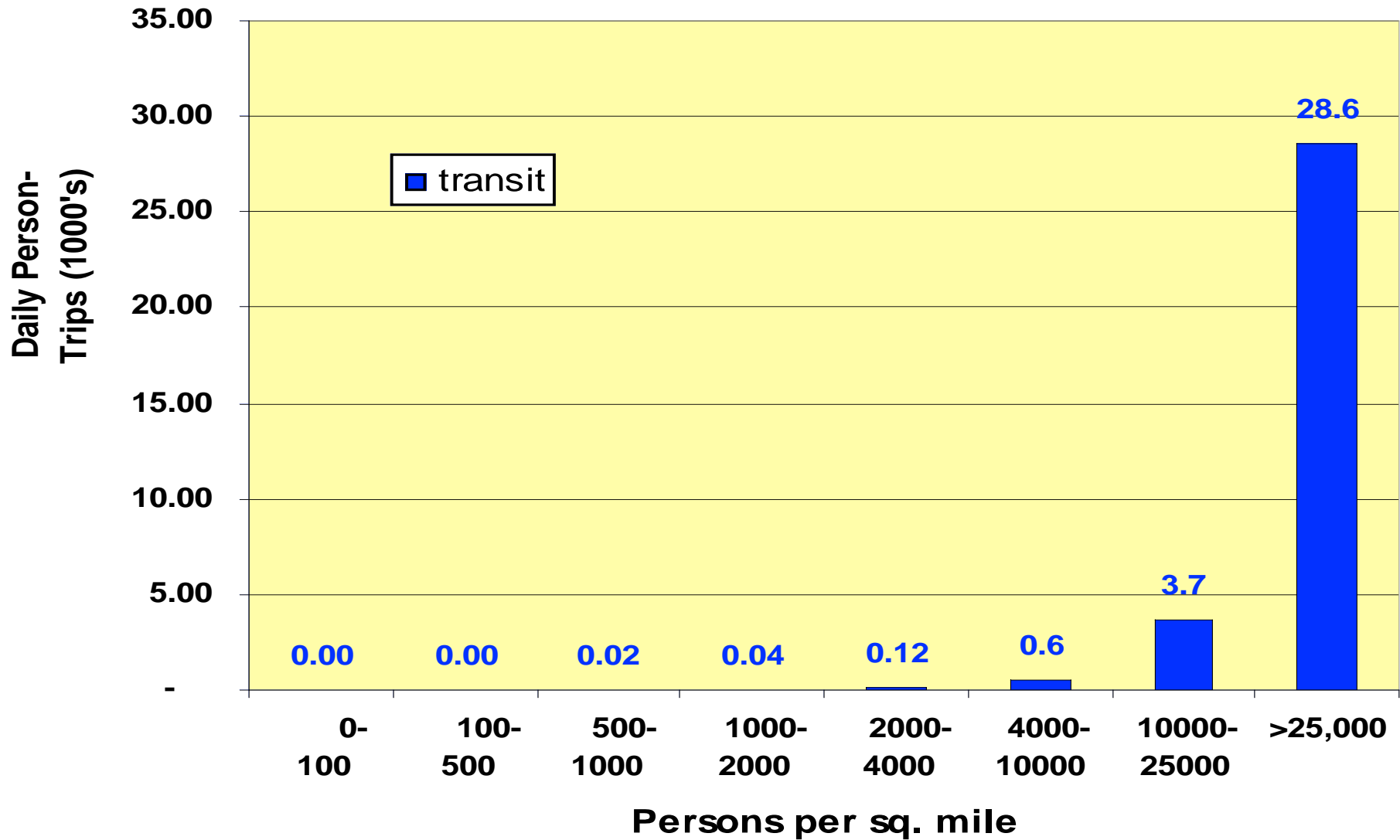
H:/21103/Data/Census/3 Cnty Census Tr 2000.xls - US-3 County Comparison tab

# VEHICLE-MILES TRAVELED vs. DENSITY (2001 NHTS)

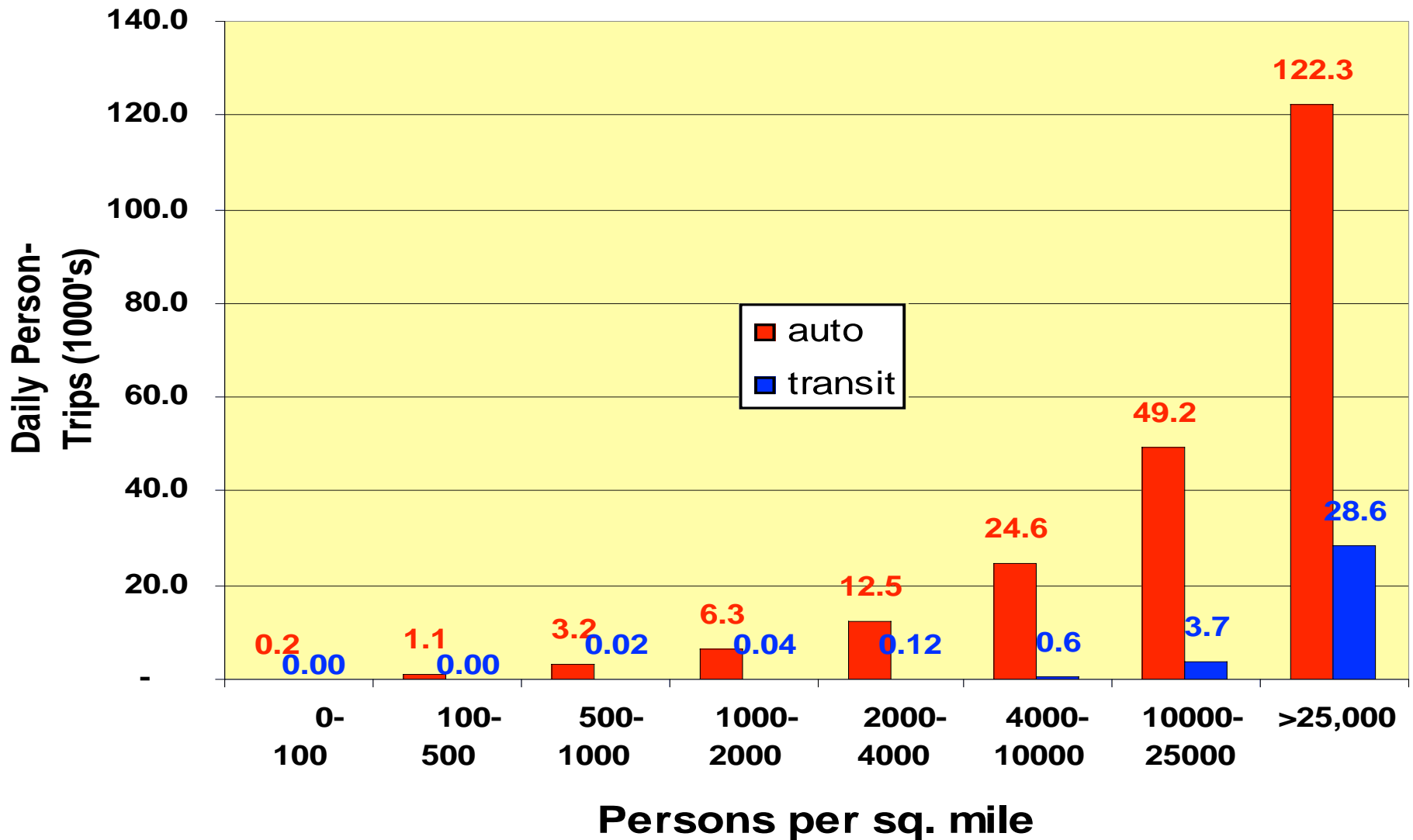


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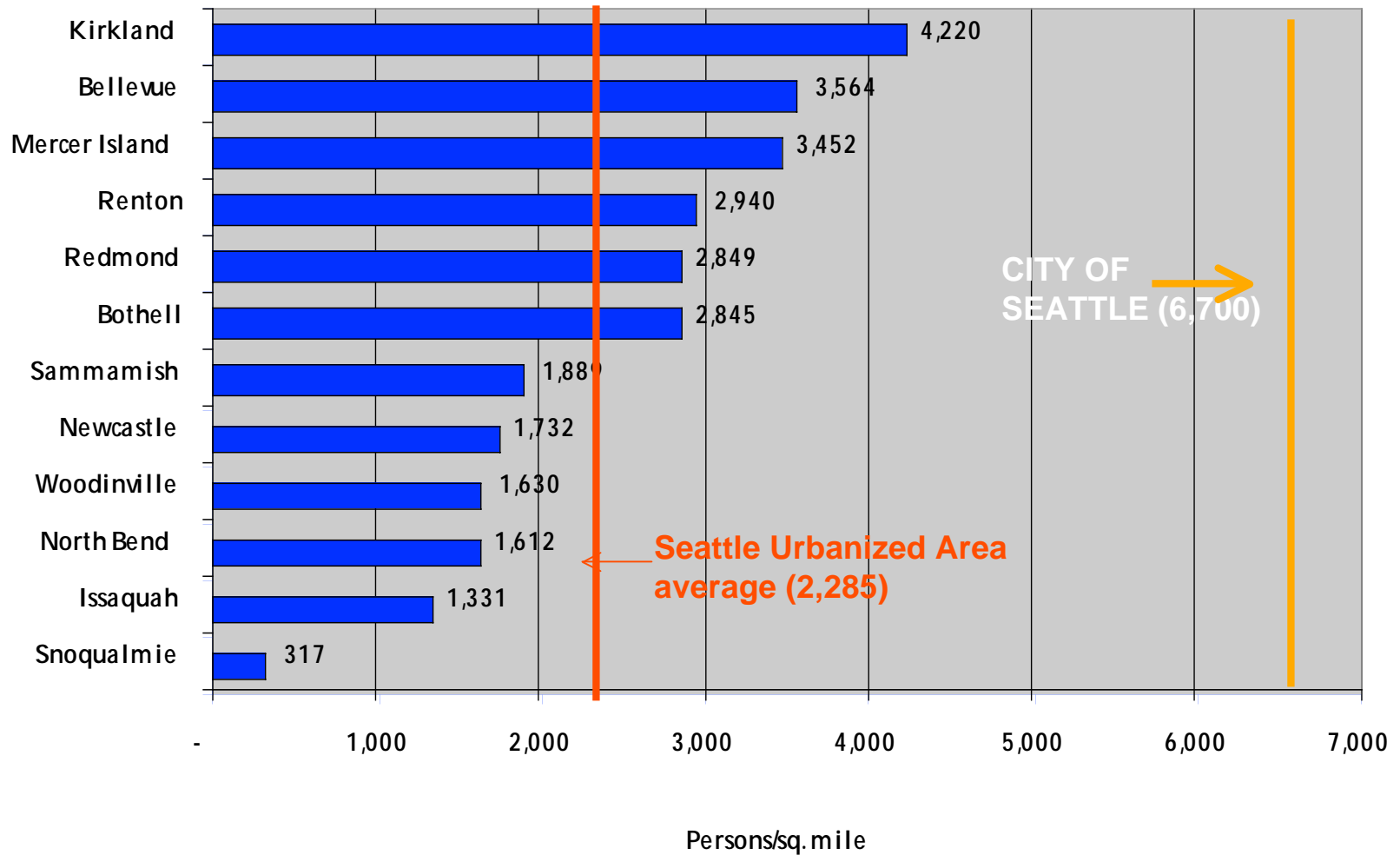
# Daily Transit Trips per Sq. Mile vs. Density (U.S. w/o NYC)



# Daily Transit & Auto Trips per Sq. Mile vs. Density (U.S. w/o NYC)

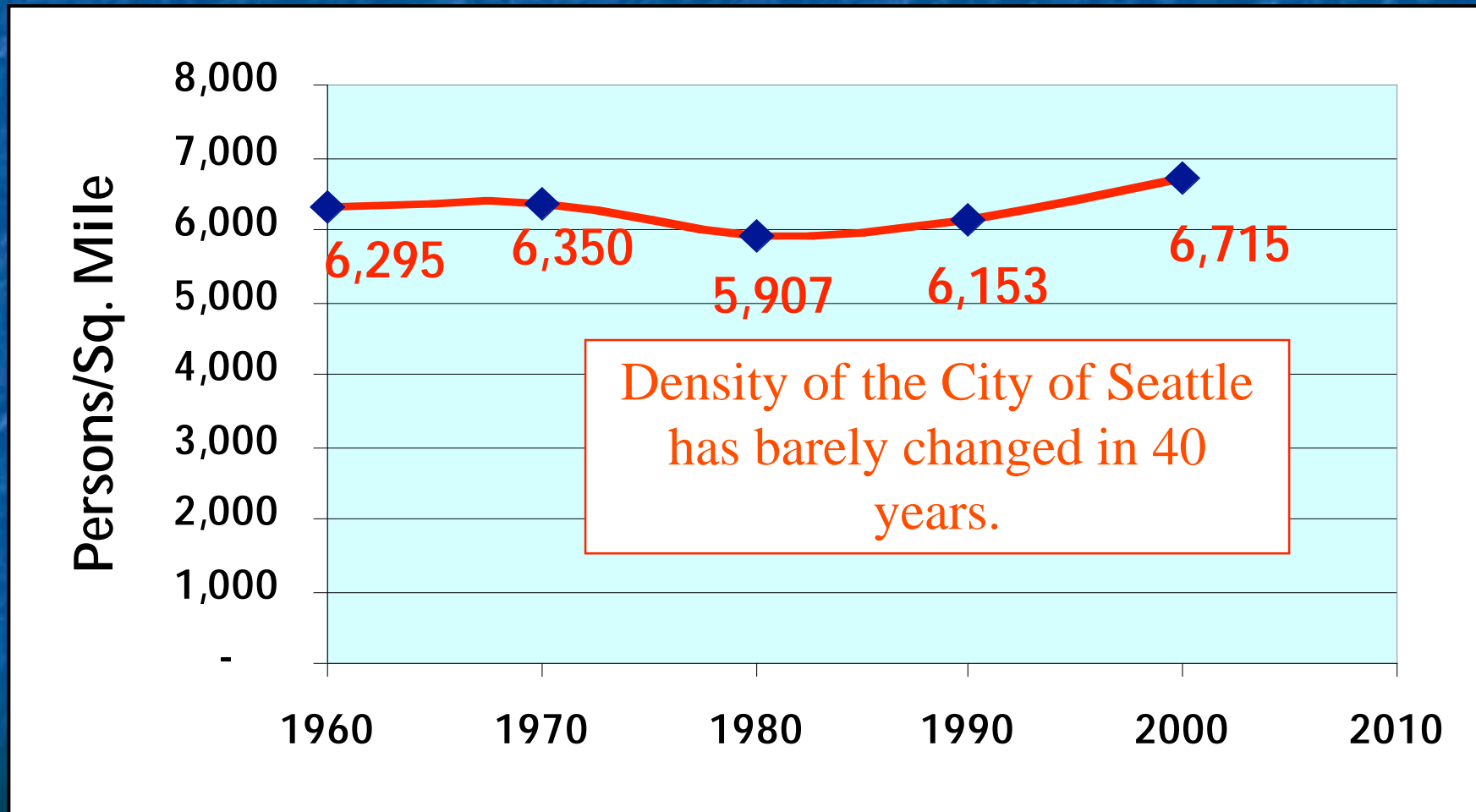


# Density of Eastside Cities (2000)

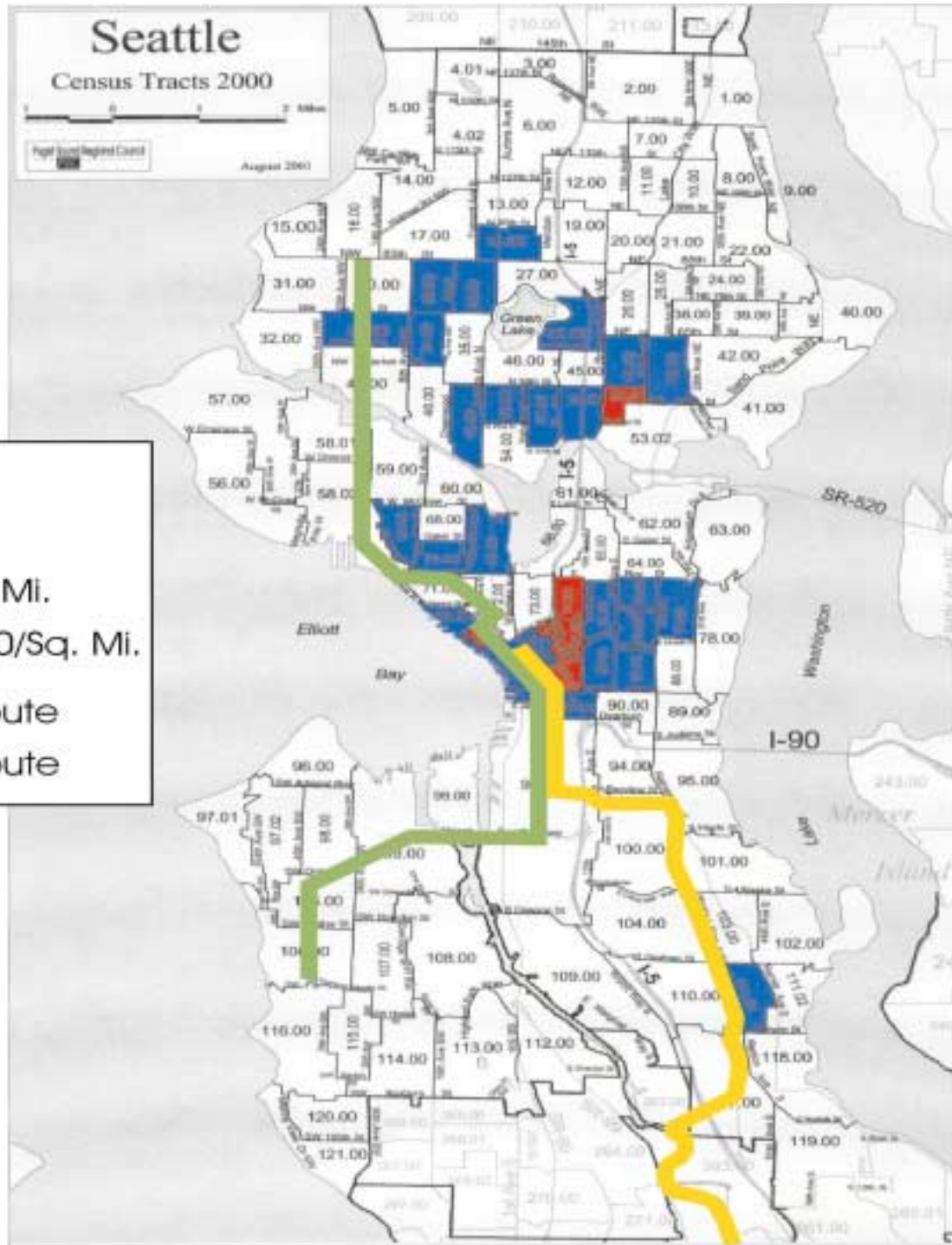


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# Trend of Density, City of Seattle







**KEY**

DENSITY

- > 25,000/Sq. Mi.
- 10,000-25,000/Sq. Mi.
- Monorail Route
- Light Rail Route

TDA, Inc.  
07-13-04



# GET THE PICTURE?

One success: highway air emissions

Travel behavior is hard to change

Highways largely ignored for 3 decades

Transit's market-share in decline

By Adopted Plan:

- delay worsens

- small mode shifts

- cars, trucks and vans continue to dominate

Work trip is small part of problem

# Major Projects

I-405 - 3 major projects underway

520 - 4 vs 6 vs 8 lanes still being decided

Diverted traffic impacts I-90, I-5, I-405 & MI

Alaska Way Viaduct

Seattle Sea Wall adds complications

Refurb or bury?

Why not I-5 expanded?

# Changes to I-90

Sound Transit - control of center lanes

LR vs BRT (dedicated vs multiuse)

R-8a Status

MI Park & Ride expansion

# Transportation Funding

Nickel Fund passed 2003

122 projects with schedules

10 year program - \$4B

9.5¢ Gas Tax Increase passed 2005

16 year program - \$8B

More flexibility for DOT

Gas tax initiative to repeal - 400K signatures

# RTID

(Regional Transportation Investment District)

Legislation passed in 2002

3 Counties - King, Pierce, Snohomish

25 County Council Members

1 man - 1 vote representation

7 member Executive Committee

Select the projects - Select from 7 taxes

Vote of the people

...the end