



# Addressing VMT Reduction through Transit-Oriented Communities

9<sup>th</sup> Annual New Partners for Smart Growth

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**“Land use-related policies alone are not the ‘silver bullet’ many are searching for to solve the climate crisis, but they are clearly an important component of the ‘silver buckshot’ of solutions required to address this issue.”**

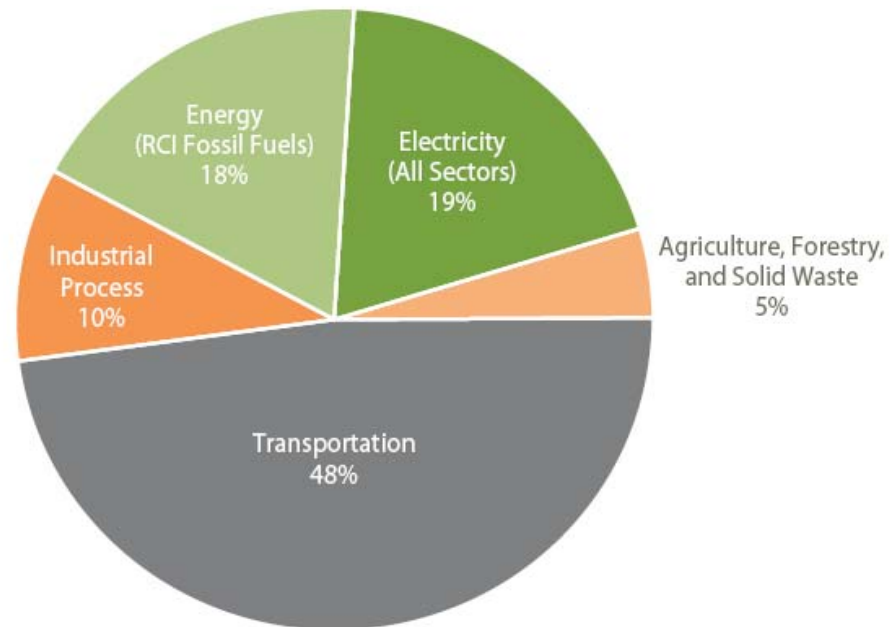
*-Planning for Climate Change in the West, Rebecca Carter & Susan Culp*

Transportation  
leading cause of GHG  
in region and state

Land use patterns  
that encourage VMT  
reduction important  
strategy to meeting  
state GHG reduction  
requirements

Sources of Greenhouse Gas Emissions in the Central Puget Sound Region

Source: Puget Sound Clean Air Agency (2000)



Note:  
Industrial Process and Energy (RCI) sectors are combined  
in baseline projections above as Buildings and Facilities

Image: PSRC



# Transit-Oriented Communities: *A Blueprint for Washington State*

Futurewise + GGLO + Transportation Choices Coalition  
October 2009

## What are Transit-Oriented Communities?

Transit-Oriented Development Example: Broadway Crossing, Seattle

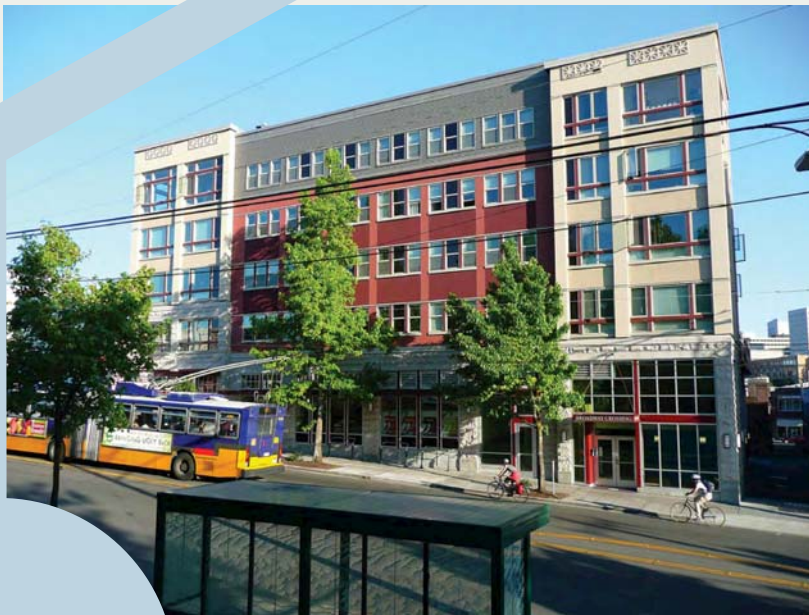


Photo: Dan Bernolet

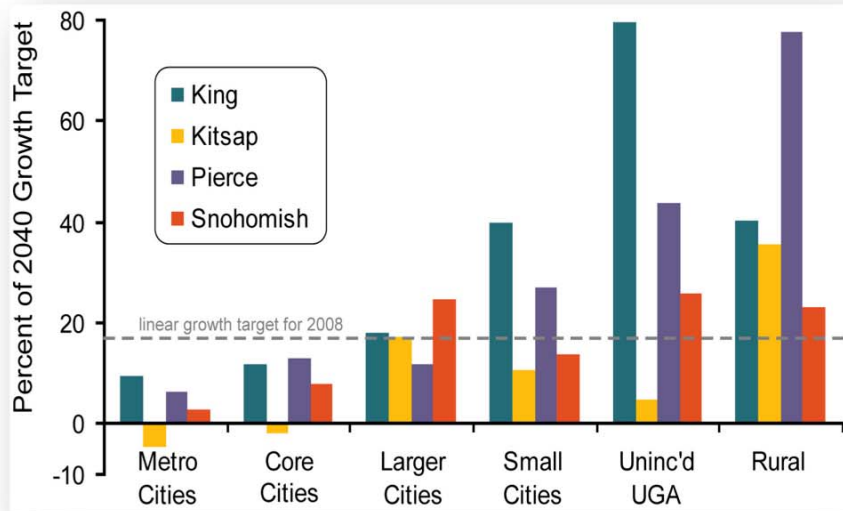
Transit-Oriented Community Example: Burien Town Square, Burien



Photo: Gail O



# Blueprint for TOC: *Context*



Large cities underperforming on growth targets; small cities and rural areas growing too fast

Expanding transit network logical place to accommodate future growth within our cities

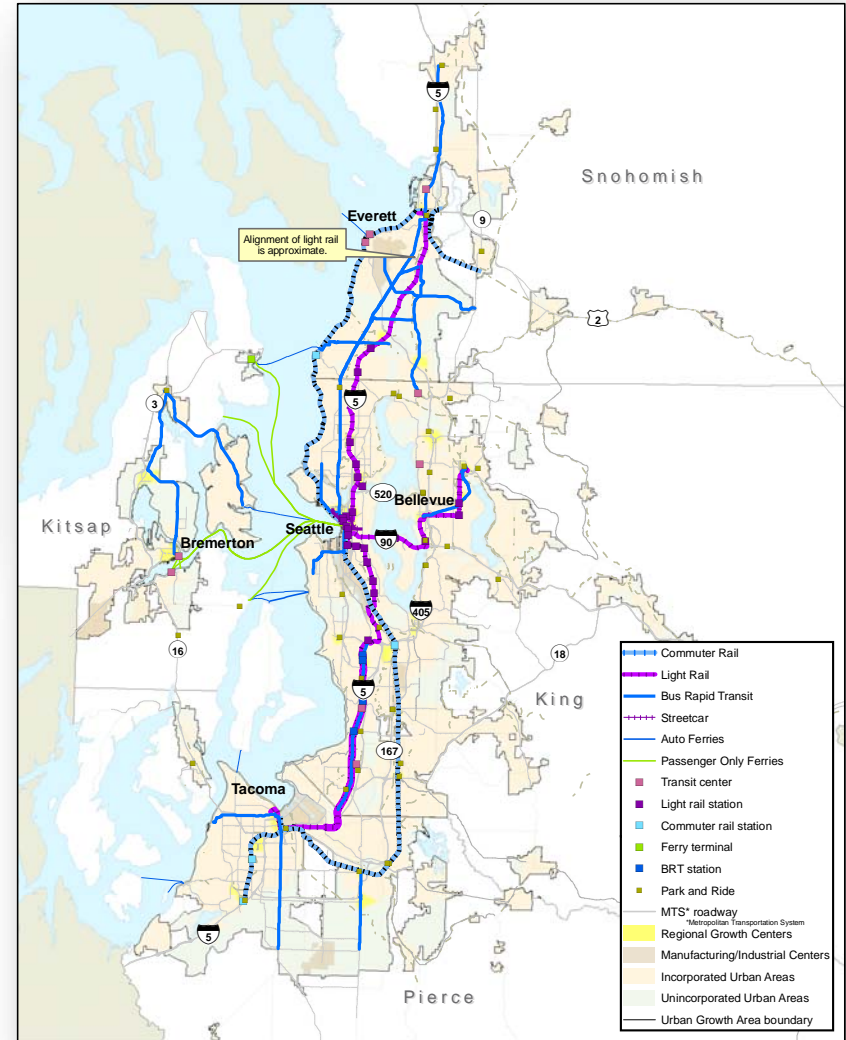


Image: PSRC



## Blueprint for TOC: *Evidence*

*What benefits can we expect to see from TOC land use patterns?*

- Social Benefits
  - Physical Health
  - Air Pollution
  - Auto Accidents
  - Social Capital
  - Transportation Costs
  - Housing Affordability
  - Infrastructure Costs
  - Return on Public Investment
- Environmental Benefits
  - Land preservation
  - Habitat protection
  - Water quality
  - Energy consumption
  - **VMT reduction**
  - **GHG reduction**



# Blueprint for TOC: *Evidence*

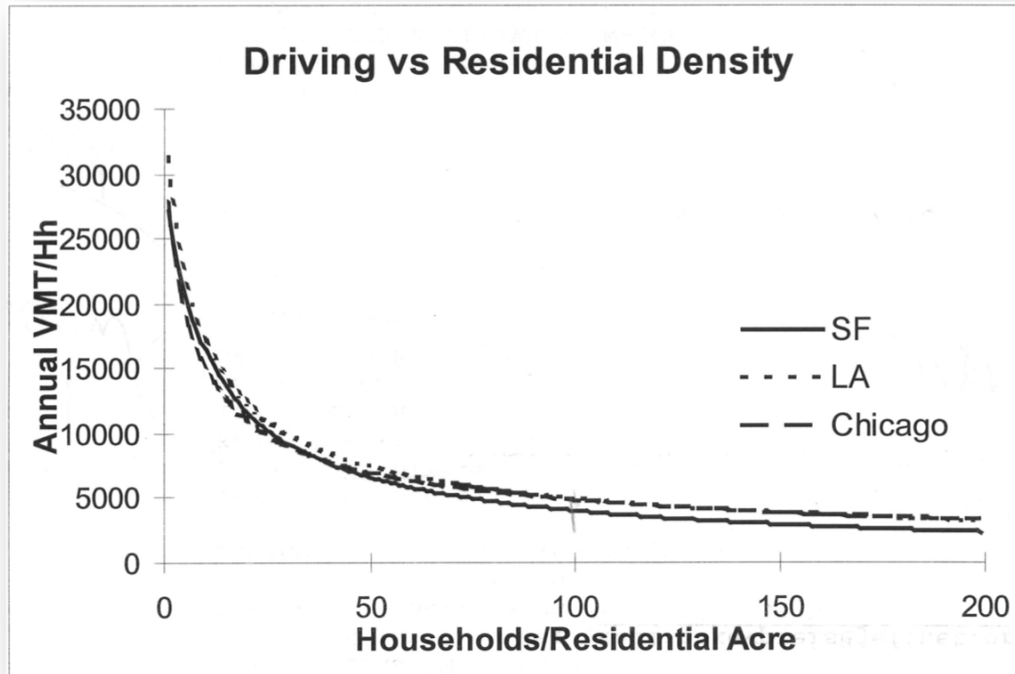


Image: Holzclaw, 2002

As residential density increases, vehicle miles traveled decreases.

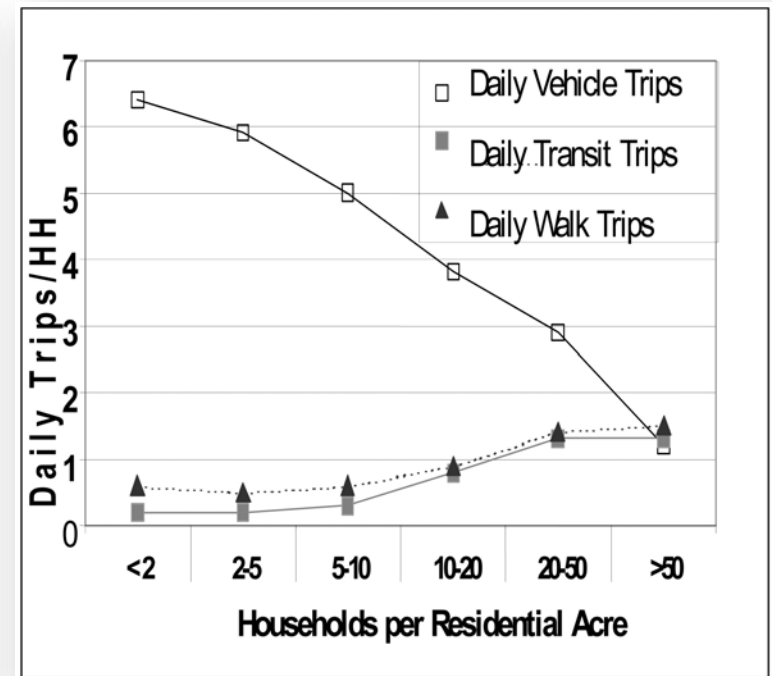


Image: Holzclaw, 1997

As residential density increases, vehicle trip decrease, transit and walking trips increase.



# Blueprint for TOC: *Evidence*

<b>Location</b>	<b>Density</b> <i>(households per residential acre)</i>	<b>Employment Access Index</b> <i>(jobs)</i>	<b>Block Size</b> <i>(acres)</i>	<b>Transit Ridership</b> <i>(% of workers)</i>	<b>Transportation GHG Emissions</b> <i>(metric tons CO2 per household)</i>
International District Station	31.2	211,362	3.4	21.9	1.5
Capitol Hill Station	23.8	193,767	4.1	19.2	3.4
Roosevelt Station	7.8	63,442	4.2	11.3	5.4

Increases in residential and employment density are associated with increases in transit ridership and decreases in GHG emissions.



## Blueprint for TOC: *Measures*

*What factors are associated with social and environmental performance of station areas?*

Transit Connectivity

Pedestrian & Bicycle Connectivity

Housing Affordability

Residential & Employment Density

Mix of Uses

Parking Reductions & Demand Management

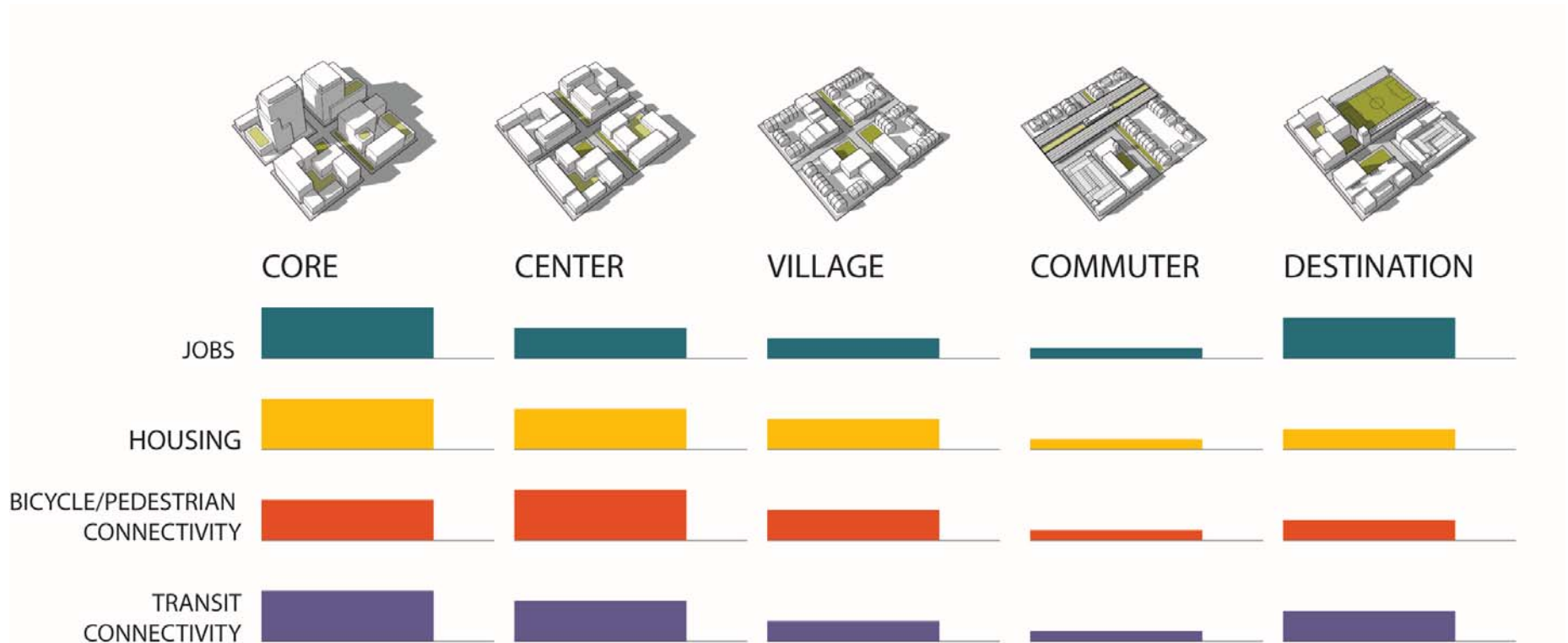
Public Spaces & Green Infrastructure

Urban Design for safety, aesthetics & preservation





# Blueprint for TOC: *Typology*



Performance diminishes from Core, to Center, to Village to Commuter, with Destination an outlier dependent on site-specific conditions.



# Blueprint for TOC: *Action*

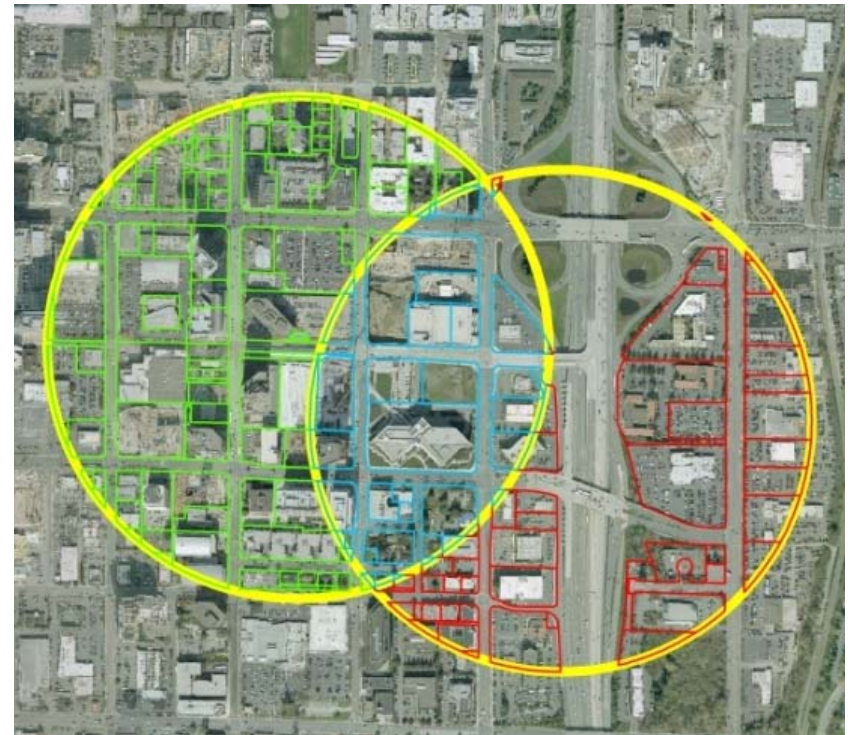
- In general, public policy should:
  - Optimize performance on all measures in all station areas
  - Provide support and incentives for high-performing TOC
  - Plan for high-performing TOC along future transit investments





# Blueprint for TOC: *Action Example*

Light Rail Alignment through Bellevue	Downtown	Freeway
Dominant Land Uses	Mixed-use, commercial	Freeway, mixed-use
Job Capacity	17,600	5500
Job Density	212/acre	95/acre
Housing Capacity	29,200	6400
Housing Density	353/acre	111/acre
Transit Connectivity	High	Low
Developable Acres	83	58



Quarter-mile station areas:  
Downtown v. I-405 station



## Regional Actions

- System alignment and station siting should maximize TOC potential
- Regional transit agencies and MPOs should be active part of station area planning



## State Actions

- Provide expanded authority for transit funding
- Define TOC and require station area planning in statute
- Align infrastructure funding programs and financing tools to support TOC
- Reflect regional transportation priorities in state transportation funding decisions





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Download the report: [www.futurewise.org/toc](http://www.futurewise.org/toc)  
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