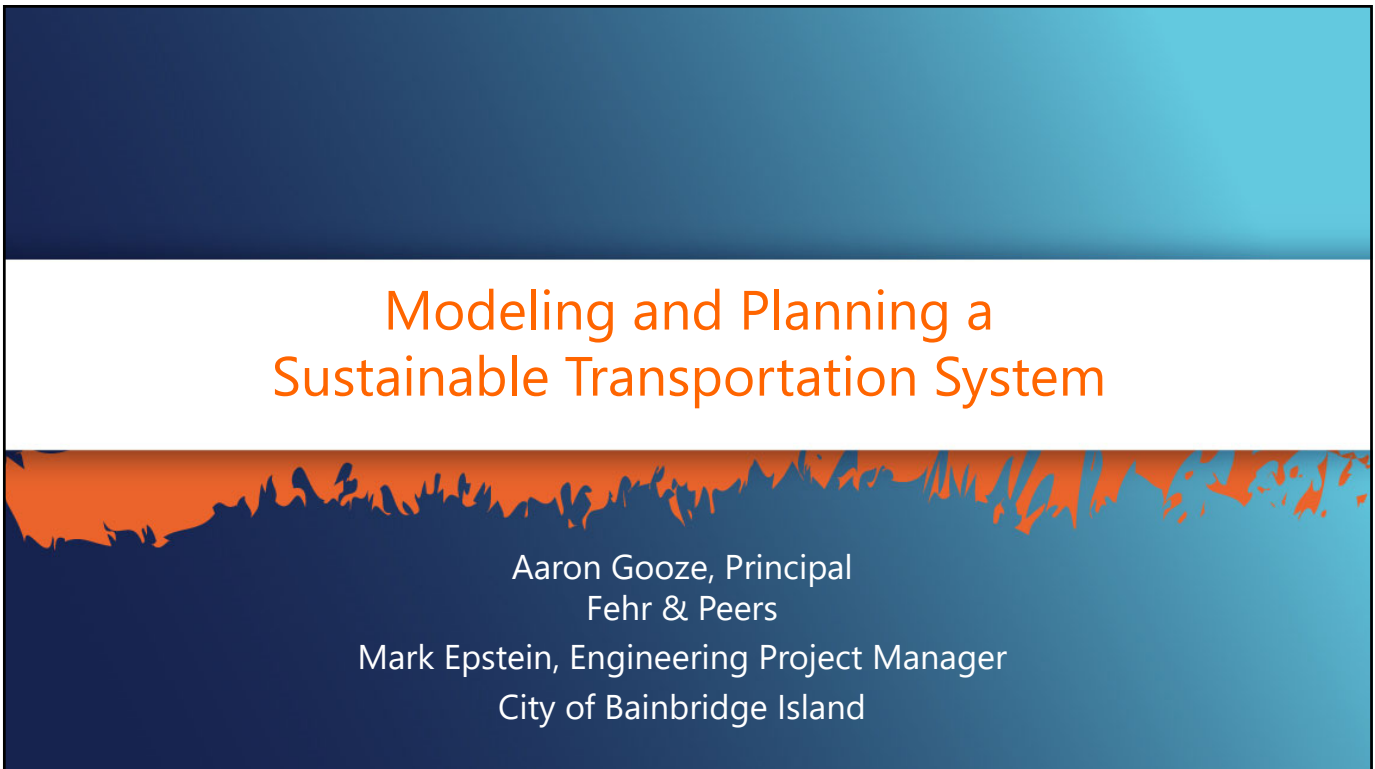


1



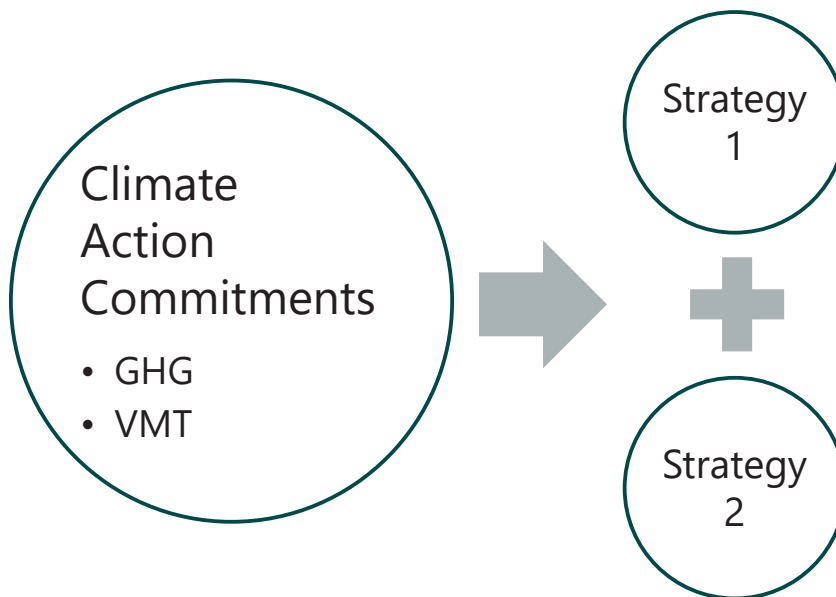
2

# Modeling of Greenhouse Gas (GHG) Reduction Strategies

An Example from King County

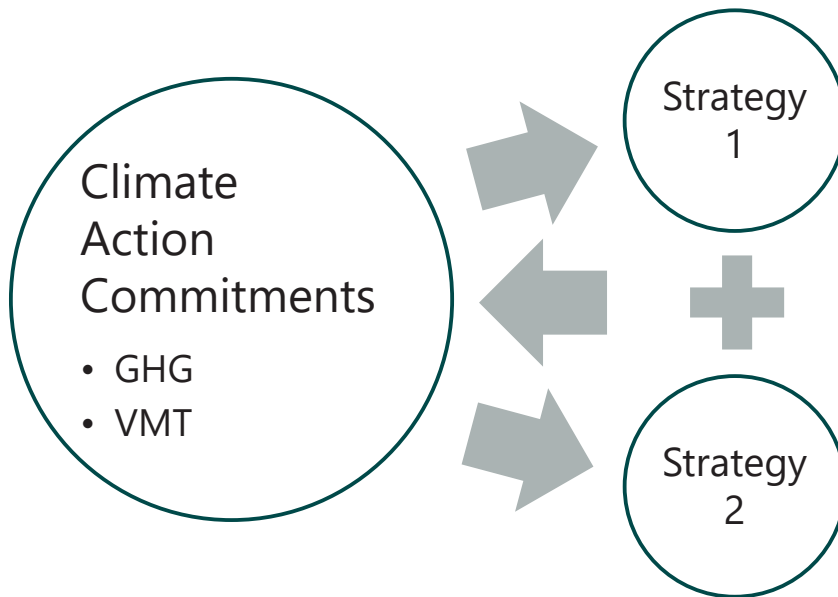
3

## Common First Step in Climate Action Planning



4

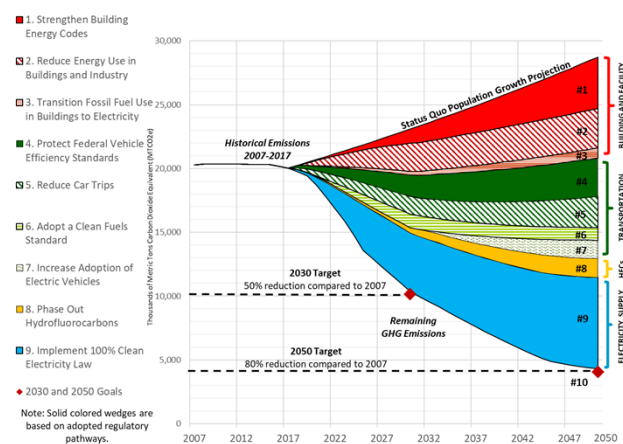
Requires an Iterative Process



5

GHG Reductions: VMT Reduction Analysis

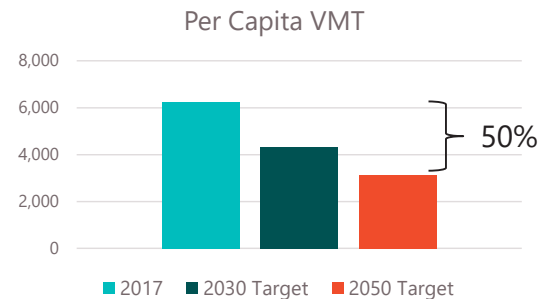
- King County commitment through the Strategic Climate Action Plan (SCAP): Countywide 80% reduction in GHG by 2050
- Transportation is responsible for over one-third of all GHG emissions
- The SCAP identified several transportation-related strategies



6

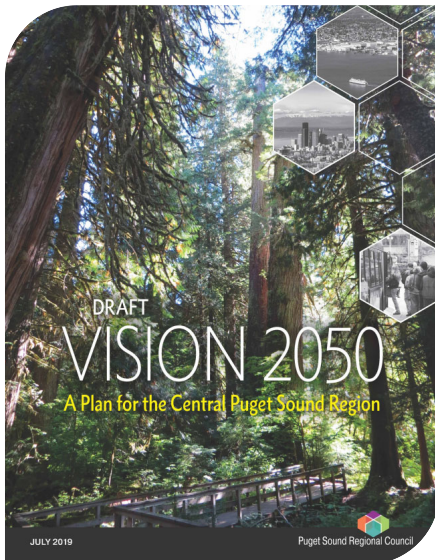
## Considerations of the Analysis

- Goal setting and priority actions for Climate Action Plan update
  - Commit to 50% reduction in per capita vehicle-miles traveled (VMT)?
  - If yes, what actions will the County require?
- Mobility Framework principles: Climate change and equity
- Model different strategies:
  - Transit service growth
  - Land use density allocation
  - Vehicle pricing



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## PSRC VISION 2050 – VMT Reduction Outcomes



### Inputs/Assumptions:

- Regional Transportation Plan for 2050
- “Transit-focused” land use
- Over 50% increase in population
- Large investment in transit service
- Includes some road pricing

### Outcome:

- ~25% reduction in per capita VMT by 2050 in King County



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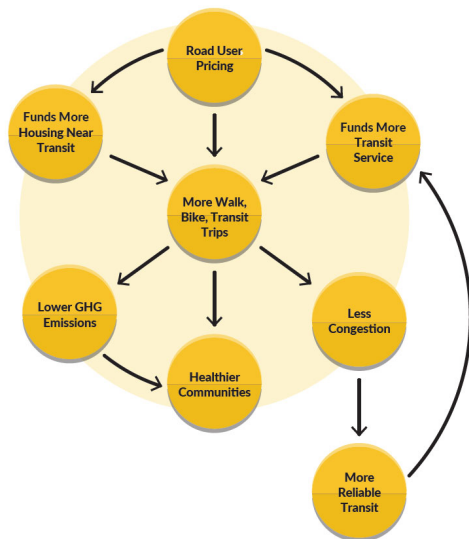
## VMT/GHG Reduction Inputs and Outcomes

Scenario	Regional Transit Service	% of Growth Allocated to Urban + Transit-oriented Suburban Areas**	Equitable Vehicle Pricing Amounts	VMT Per Capita (% Reduction from 2017) <small>Target: 33-37% Reduction by 2040</small>
 <b>Transit Investment</b>	 <b>3x METRO CONNECTS</b>	 <b>Same as Vision 2050 Scenario</b>	\$\$\$\$\$\$\$\$\$\$ <b>\$0.13/mile</b>	<input checked="" type="checkbox"/> <b>33% Reduction</b>
 <b>Land Use</b>	 <b>METRO CONNECTS</b>	<b>95%</b>	\$\$\$\$\$\$\$\$\$\$ <b>\$0.13/mile</b>	<input type="checkbox"/> <b>14% Reduction</b>
 <b>Vehicle Pricing</b>	 <b>METRO CONNECTS</b>	 <b>Same as Vision 2050 Scenario</b>	\$\$\$\$\$\$\$\$\$\$ <b>Up to \$1.50/mile</b>	<input checked="" type="checkbox"/> <b>39% Reduction</b>



9

## General Findings from the King County Study



- Major impacts of vehicle pricing
- Role of land use density
- Coordinated approach with regional and local agencies
- Transit relies on land use and vice versa



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## Broader Lessons Learned in GHG Reduction Modeling

- Consider the geographic scale
- Leverage multiple data sources
  - Travel models
  - Census/LEHD
  - "Big Data" (Ex. StreetLight)
  - Travel surveys
- Strategies: direct jurisdictional control vs. partnerships
- Trade-offs against other community goals
- Leverage an iterative process



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Thank you!  
Questions?

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