

# Transportation and Land Use: Reducing CO<sub>2</sub> Emissions

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# Reasons for Optimism: Metro DC Example

- By 2030, Metro DC employment to increase 44%, from 2.89 million jobs to 4.16 million jobs
  - Total NO<sub>x</sub> emissions will decline 87%, from 259 tons/day to 35 tons/day
  - VOC emissions will decline 61%, from 101 to 39 tons/day
- Mobile source reductions will account for 38% of NO<sub>x</sub> progress and 81% of VOC progress

# Mobile Source CO<sub>2</sub> Differs from NO<sub>x</sub> and VOC

- Not a regional or localized pollutant that can be addressed through a metropolitan planning process
- Not empirically measured—global or national cumulative and projected emissions are key variables
- Current vehicle technologies have higher rates of CO<sub>2</sub> emissions at speeds below 30 mph and above 75 mph

# Transportation and Land Use: Cost Effective CO<sub>2</sub> Measures

1. Accelerated auto fleet turnover
2. Accelerated truck fleet turnover
3. Market access to alternative fuels
4. Market access to pedestrian/transit/HOV
5. Highway operations/alternatives
6. Market access to telecommuting
7. Market access to carbon sinks

# Fleet Turnover

- Accelerate beneficial CAFÉ impacts
  - Weight-based registration
  - “Gas Guzzler” tax
  - Fuel-efficiency criteria for selected taxes and fees (new cars only)
- Advocate truck CAFÉ standard
- Evaluate 2030 CAFÉ standard for cars and trucks; California GHG standards; and school and public transportation standards

# Market Access to Alternative Fuels

- Identify plug-in charging areas and services—rest stops, safety service patrols, truck stops and make Virginia “hybrid friendly”
- Establish common biodiesel standards for heavy equipment and school buses—in concert with other states to increase market impact
- Allow use of VDOT rights-of-way for solar and wind farm connections to power grid

# Market Access to Pedestrian, Transit and HOV Services

- HB 3202 required **regional** performance standards for job/housing ratios and transit/HOV access in Hampton Roads and Northern Virginia
  - Substantial additional capital **and** operating funds required for rail, bus and HOV enhancements (e.g. Tysons Task Force)
  - CTB bicycle/pedestrian policy
  - HOV or HOT **essential** for regional bus service

# Highway Operations and Alternatives

- Implement highway pricing through HOT lane **networks**
- Enforce DEQ diesel idling regulations
- Establish signal optimization standards
- Establish simple criteria for roundabouts
- Implement highway improvements that maximize freight rail, HOV, commuter rail and public transportation—recognizing that most trips will span several modes



# Market Access to Telecommuting

- Establish state and local standards and incentives for electronic transactions (eg. DMV surcharge)
- Reward high-performing private employers
- Reward high-performing public employers
- Recognize regional differences

# Market Access to Carbon Sinks

- As the fourth largest landowner in Virginia, the Commonwealth has a valuable asset
  - Evaluate “tree banking” concept similar to wetland banking
  - Evaluate VDOT landscaping standards to minimize mowing and increase carbon retention

# Financial Impacts

- Auto and truck standards affect consumers and businesses
- Providing market access to pedestrian, transit and HOV services requires significantly more up-front capital investments (eg. Tysons Task Force, HOT lanes and Dulles Rail)
- Federal and state transportation revenues rapidly eroding—even faster with many of these recommendations