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National Center for Smart Growth Research & Education

# FROM SMART GROWTH TO SUSTAINABLE CITIES

Planning *for* Change: Planning in Times of Change
Derry/Londonderry, Northern Ireland
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## OVERVIEW

- What is Smart Growth
- What have we learned?
- Sustainable Cities
- Scenario analysis

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## WHAT IS SMART GROWTH?

"Smart growth" covers a range of development and conservation strategies that help protect our health and natural environment and make our communities more attractive, economically stronger, and more socially diverse.

US EPA

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## TEN PRINCIPLES OF SMART GROWTH

| | | | |
|---|---|---|---|
|  | Mix land uses |  | Preserve open space, farmland, natural beauty, and critical environmental areas |
|  | Promote compact building design |  | Strengthen and direct development toward existing communities |
|  | Create a range of housing choices and opportunities |  | Provide a variety of transportation choices |
|  | Build walkable neighborhoods |  | Make development decisions predictable, fair, and cost effective |
|  | Create distinctive, attractive communities with a strong sense of place |  | Encourage community and stakeholder collaboration in development decisions |

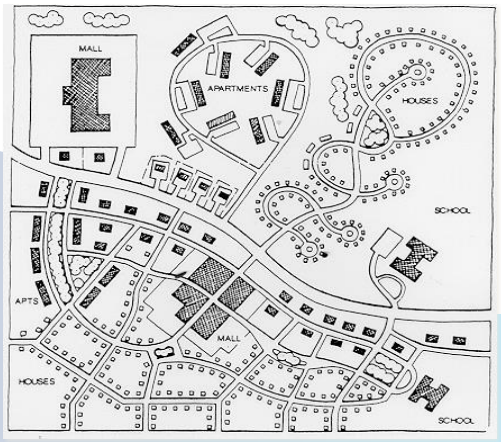
## Smart Growth at the Regional Scale

### PORTLAND'S 2040 CONCEPT PLAN

## Smart Growth at the Neighborhood Scale

### SMART GROWTH vs. SPRAWL

Smart Growth




Sprawl

## Smart Growth at the Block Scale

### SMART GROWTH vs. SPRAWL

## 20 YEARS OF SMART GROWTH
## WHAT HAVE WE LEARNED?

SMART GROWTH @ 20

## What Have We Learned?

### URBAN FORM

- Walkable, mixed use buildings and neighborhoods can be designed in ways that create vibrancy and economic success.
- Residents of mixed use neighborhoods tend to drive less, walk more, and have more social interaction.
- There remains substantial demand for low-density, suburban and exurban communities, especially for families with children and pets.

## What Have We Learned?

### HOUSING AND URBAN DEVELOPMENT

- Urban containment and urban revitalization has been difficult to achieve even in progressive cities and states.
- Development controls are major impediments that limit housing supply and affordability especially in high opportunity areas.
- Infill and redevelopment is generally more costly for both the public and private sectors.

## What Have We Learned?

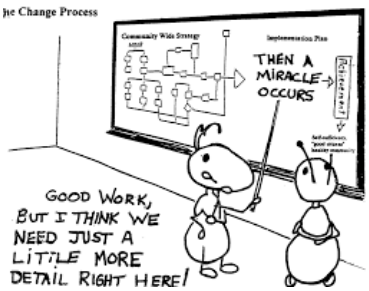
### TRANSPORTATION AND LAND USE

- Transportation and land use are inexorably interrelated and must be planned and managed together;
- Land use policy can be used to reduce VMT and increase transit ridership, but elasticities are low and barriers are high and costly to overcome;
- Prices matter: transit fares, fuel taxes, and tolls can have large effects on travel behavior.

## What Have We Learned?

### POLICY IMPLEMENTATION

- The "Quiet Revolution" is over; the revolutionaries have lost;
- The performance of incentive programs has been disappointing;
- Advancements in planning technology have improved local planning; but the focus of local planning remains politically determined.
- Help from the federal government is not likely any time soon.



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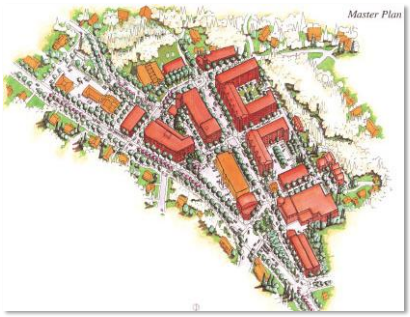
# FROM SMART GROWTH TO SUSTAINABLE CITIES

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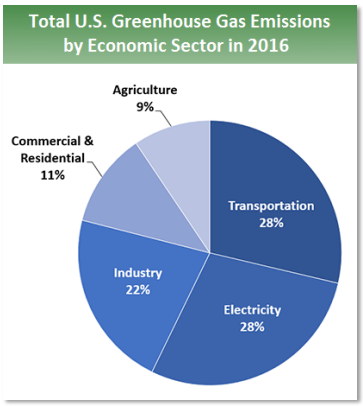
# THE EVOLUTION OF SUSTAINABLE CITIES

- **Environmental sustainability:**
  - the ability to maintain rates of renewable resource harvest, pollution creation, and non-renewable resource depletion that can be continued indefinitely.
- **Sustainable development**:
  - development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- **The Three E's:**
  - Environment, Economy and Equity

## From Smart Growth to Sustainable Cities

# BEYOND SMART GROWTH

- While the principles of smart growth remain valid the pursuit of sustainable cities will require address of new challenges…
  - Climate and Energy
  - Transportation Technology
  - Workforce and Public Health, and
  - Smart cities

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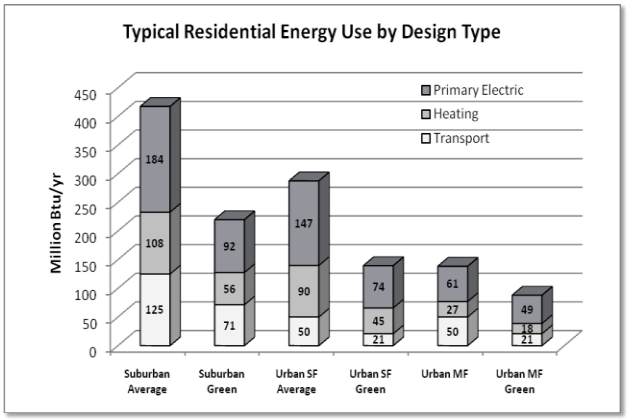
# URBAN FORM WILL STILL MATTER



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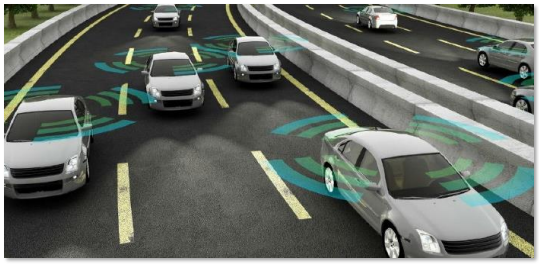
## THE TRANSPORTATION REVOLUTION

- The adoption of connected, autonomous, electric, and shared vehicles will challenge our knowledge of the transportation-land use connection.
- Decisions about how and where we accommodate these new transportation technologies are critically important.



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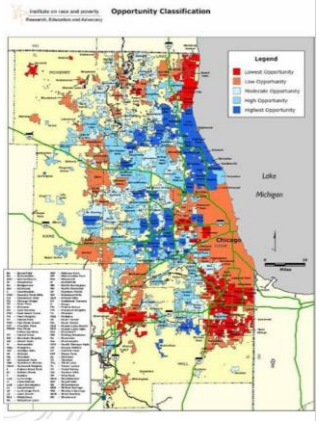
## THE SALIENCE OF SPATIAL EQUITY

- A growing body of research demonstrates the importance of place as a determinant of social mobility.
- The use of opportunity maps and equity atlases has grown rapidly.
- While the importance of neighborhood effects are widely acknowledged, their pathways remain poorly understood.



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### RENEWED FOCUS ON HUMAN CAPITAL

- Socio-physical determinants of health


Place-based workforce development

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### THE PROSPECTS OF SMART CITIES


The promise of smart cities is real; but for most cities, the likely path forward is incremental with fits and starts.

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# THE PROMISE OF SCENARIO ANALYSIS

PRESTO

PROSPECTS FOR REGIONAL SUSTAINABILITY TOMORROW

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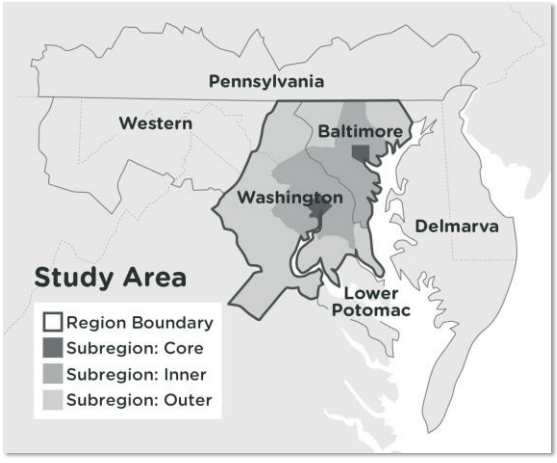
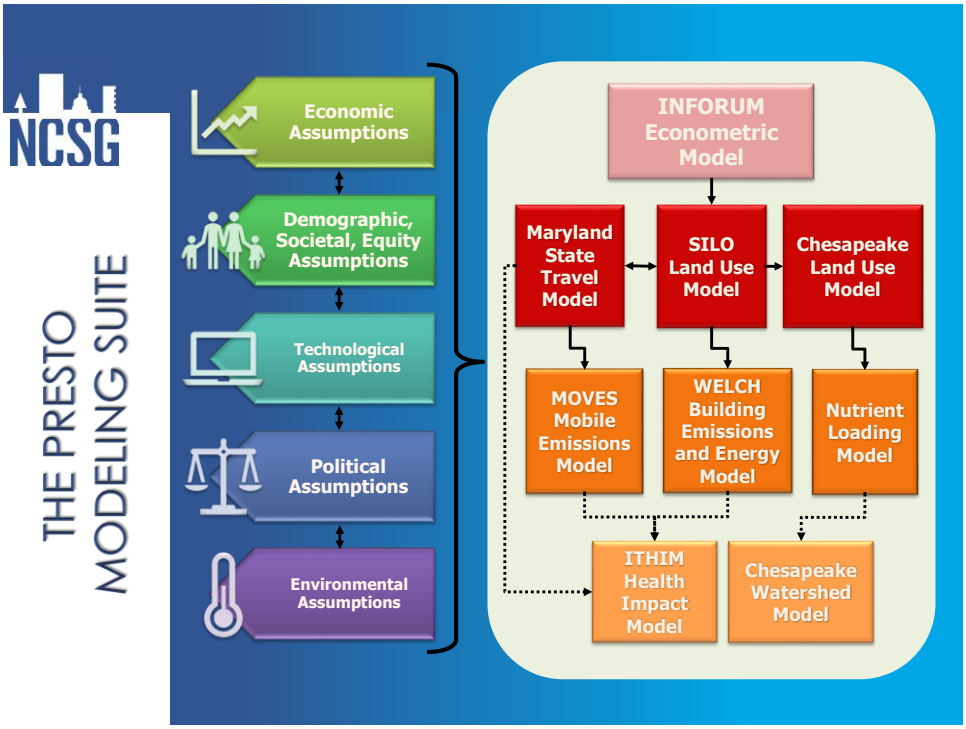
THE PROMISE OF SCENARIO ANALYSIS

## THE PRESTO MODELING REGION

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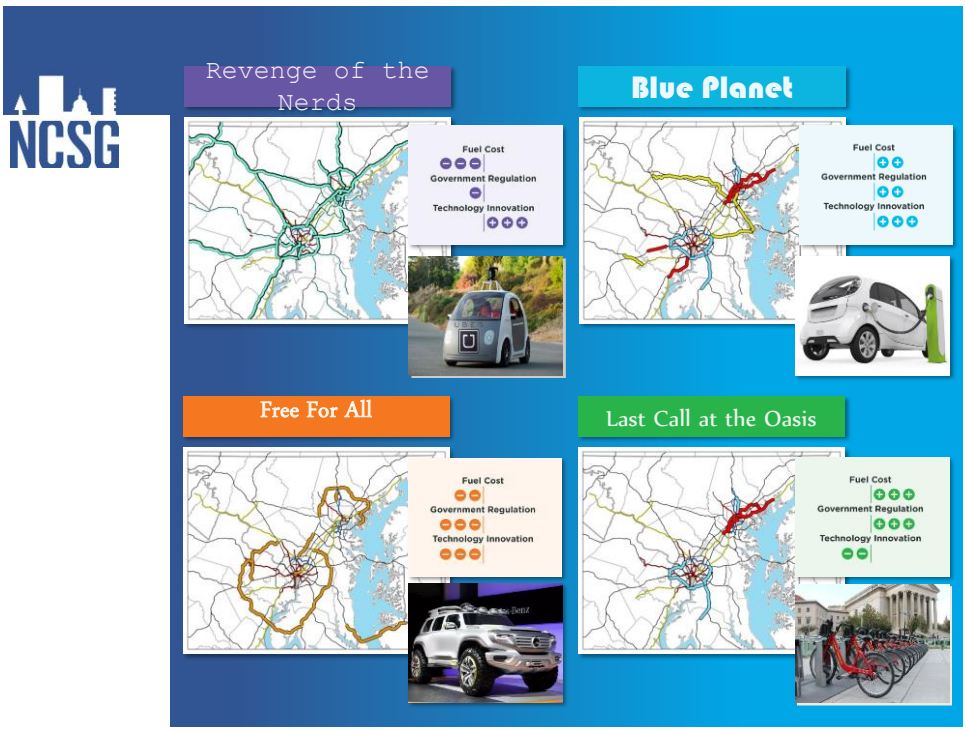
THE PRESTO MODELING SUITE
Economic Assumptions
Demographic, Societal, Equity Assumptions
Technological Assumptions
Political Assumptions
Environmental Assumptions
INFORUM Econometric Model
Maryland State Travel Model
SILO Land Use Model
Chesapeake Land Use Model
MOVES Mobile Emissions Model
WELCH Building Emissions and Energy Model
Nutrient Loading Model
ITHIM Health Impact Model
Chesapeake Watershed Model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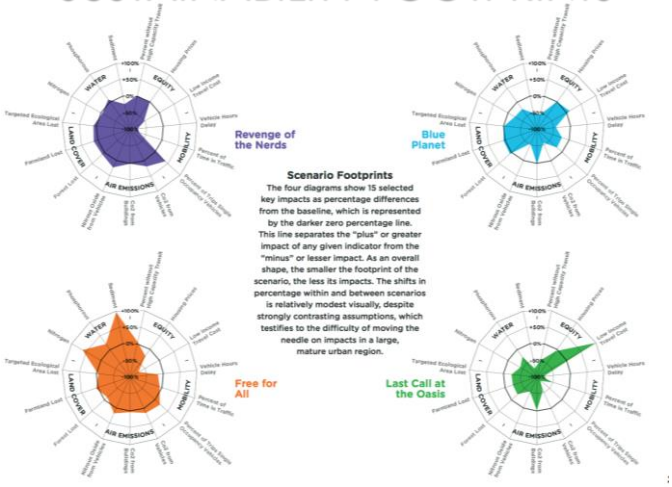
Revenge of the Nerds
Fuel Cost
Government Regulation
Technology Innovation
Blue Planet
Fuel Cost
Government Regulation
Technology Innovation
Free For All
Fuel Cost
Government Regulation
Technology Innovation
Last Call at the Oasis
Fuel Cost
Government Regulation
Technology Innovation

# SUSTAINABILITY FOOTPRINTS

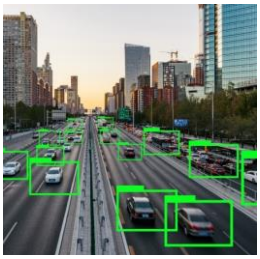



# WHAT HAVE WE LEARNED?

- Changes in transportation technologies, land use policies, and energy prices, could have profound impacts on future travel behavior development patterns, and environmental quality.
- The future is not given or chosen but the outcome of exogenous forces and policy decisions!
- Some policy decisions are robust, some are contingent.

## WHAT HAVE WE LEARNED?

- The rapid adoption of AVs has the potential to increase driving, foster a more dispersed development pattern, and cause more air and water pollution.
- Land development regulations have a strong effect on development patterns and tend to deflect growth from the inner suburbs.
- The rapid adoption of electric vehicles is key to achieving green house gas targets.

## WHAT HAVE WE LEARNED?

- Future transit ridership is highly uncertain.
- Not all preservation is alike.
- Growth containment at the local scale looks like NIMBYism at the regional scale.
- Trade offs are inevitable.

# CONCLUDING COMMENTS

## Planning in Times of Change

- The principles of smart growth remain as valid today as 20 years ago.
- Our track record in implementation leaves much to be desired.
- Changes in climate, transportation, equity, public health, technology, and politics present new challenges and opportunities.
- We need to step up to the challenge.

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## SINCERE THANKS!

www.umdsmartgrowth.org