

# Livable Communities: Critical Role of Performance Measures from Concept to Implementation

Conference on Performance Measures for Transportation and Livable Communities

Robert Johns, Director  
Volpe National Transportation Systems Center

Austin, Texas  
September 7, 2011



# Livable Communities: Critical Role of Performance Measures from Concept to Implementation

- Purpose of presentation
  - Help set context for conference
  - Provide observations from Volpe Center's work on connections between livable communities and performance measures
  - Focus on planning process, decisions, and implementation
    - Role of PMs to improve community livability
  - Identify key challenges to realizing contribution of PMs
    - Research opportunities



# U.S. DOT Strategic Goals

- Safety
- State of good repair
- Economic competitiveness
- Livable communities
- Environmental sustainability



Photo courtesy of the Volpe Center

# Volpe purpose, mission and values

## Purpose

- Advancing transportation innovation for the public good

## Mission

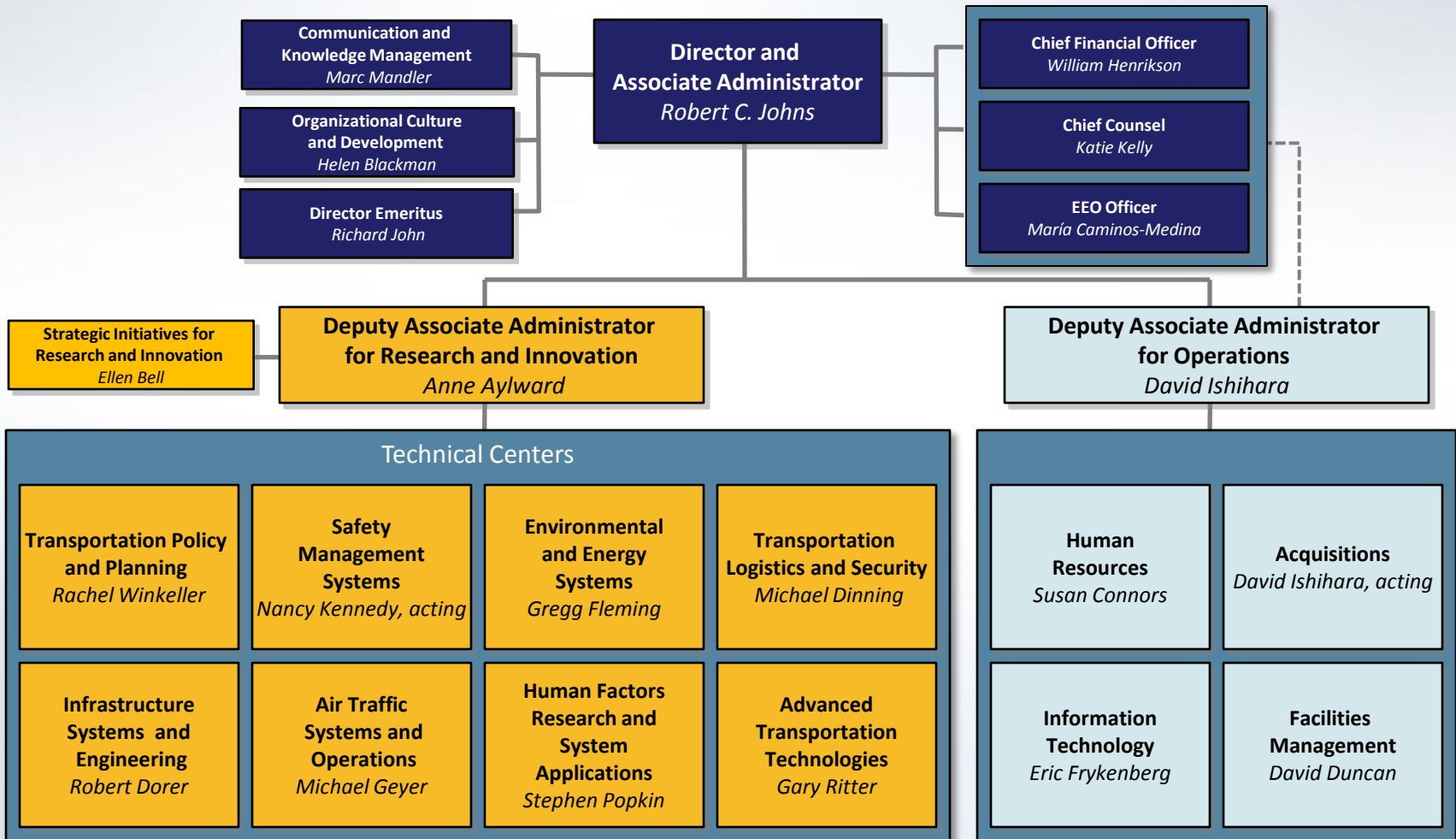
- Improve the nation's transportation system by serving as a center of excellence for informed decision making, anticipating emerging transportation issues, and advancing technical, operational and institutional innovations

## Values

- **Public service** - We serve the public honestly and objectively
- **Innovative solutions** - We continually anticipate and respond to global transportation challenges and emerging issues
- **Professional excellence** - We deliver outstanding products and services that exceed customer expectations
- **Collaboration and partnering** - We foster internal and external collaboration and partnerships through teamwork and mutual respect



# Volpe Center organization





# Volpe is unique

## Modal knowledge and experience

- Institutional knowledge of the global transportation system and its stakeholder perspectives
- Decades of expertise and experience in every mode of transportation

## Disciplinary breadth and depth

- Experience with the full spectrum of technologies and disciplines relevant to transportation system improvements
- Multi-disciplinary and multi-modal

## Federal role

- Awareness of Federal responsibilities, objectives, and activities in the public interest
- Since we are Federal, we can be a partner on strategy, tactics, policy and acquisitions

## Entrepreneurial culture

- Federal fee-for-service
- No direct appropriations. All salaries and operating costs are recovered via funding provided by customer agreements

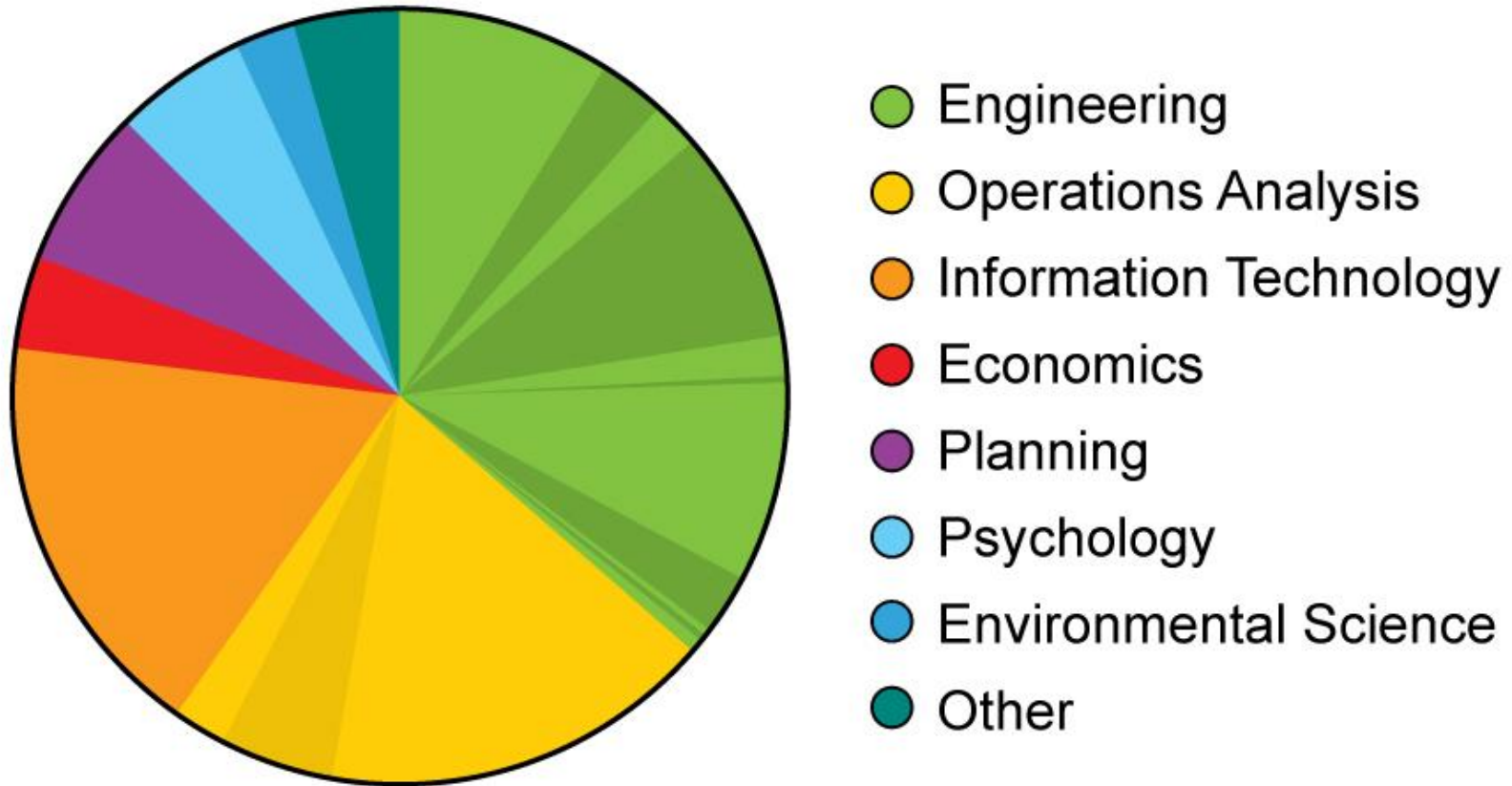


# Our most important asset: dedicated transportation professionals

- **578** Federal Employees representing a full spectrum of disciplines from engineering to physical and social sciences
- **261** Advanced Degrees (66 PhDs and 195 Masters)
- More than **60** Federal Career Interns and Co-op Students
- More than **1,000** contractors



# A multidisciplinary set of skills and expertise





# Insights from Livability and Performance Measures projects

- Federal Context
  - Administration's Federal Performance initiative
  - DOT-HUD-EPA Partnership for Sustainable Communities
    - Livability Principles
- Center for Transportation Studies, University of Minnesota
- Volpe Center's evolving work portfolio



# Administration's Federal Performance Initiative

## Driving Federal Performance

***“If we believe the government can make a difference in people’s lives, we have the obligation to prove it works – by making government smarter, and leaner and more effective.”***

President Barack Obama, April 13, 2011

Performance.Gov



# DOT-HUD-EPA Partnership for Sustainable Communities

## Six Principles of Livability

- **Provide more transportation** choices to decrease household transportation costs, reduce dependence on oil, improve air quality, and promote public health
- Expand location- and energy-efficient **housing choices**
- **Improve economic competitiveness of neighborhoods** by giving people reliable access to employment centers, educational opportunities, services and other basic needs.
- **Target federal funding toward existing communities** – through transit-oriented development and place-based policies
- **Align federal policies and funding** to remove barriers to collaboration, leverage funding and increase the effectiveness of programs
- **Enhance the unique characteristics of all communities** by investing in healthy, safe and walkable neighborhoods, whether rural, urban or suburban.



# Insights from Related Projects

Center for Transportation Studies, Univ. of Minnesota

- Transportation and Regional Growth
- Access to Destinations
- Transitway Impacts Research





# Volpe Livability and Performance Measure Projects

- OECD/ECMT urban travel and sustainability policies /strategies (OST)
- White paper on performance based planning (FHWA)
- Statewide and Metro Planning Oversight (FTA and FHWA)
- Nonmotorized Pilot Program (FHWA)
- Federal Lands Performance Measure Framework (Federal Lands)
- Chicago MPO: “Go to 2040” transportation/land use vision plan
- DOT-HUD-EPA Partnership for Sustainable Communities (FTA)
- Transit @ the Table: Statewide planning, rural transit, livability, (FTA)
- MPOs and Healthy Communities (FHWA)
- Scenario Planning Workshops (FHWA)

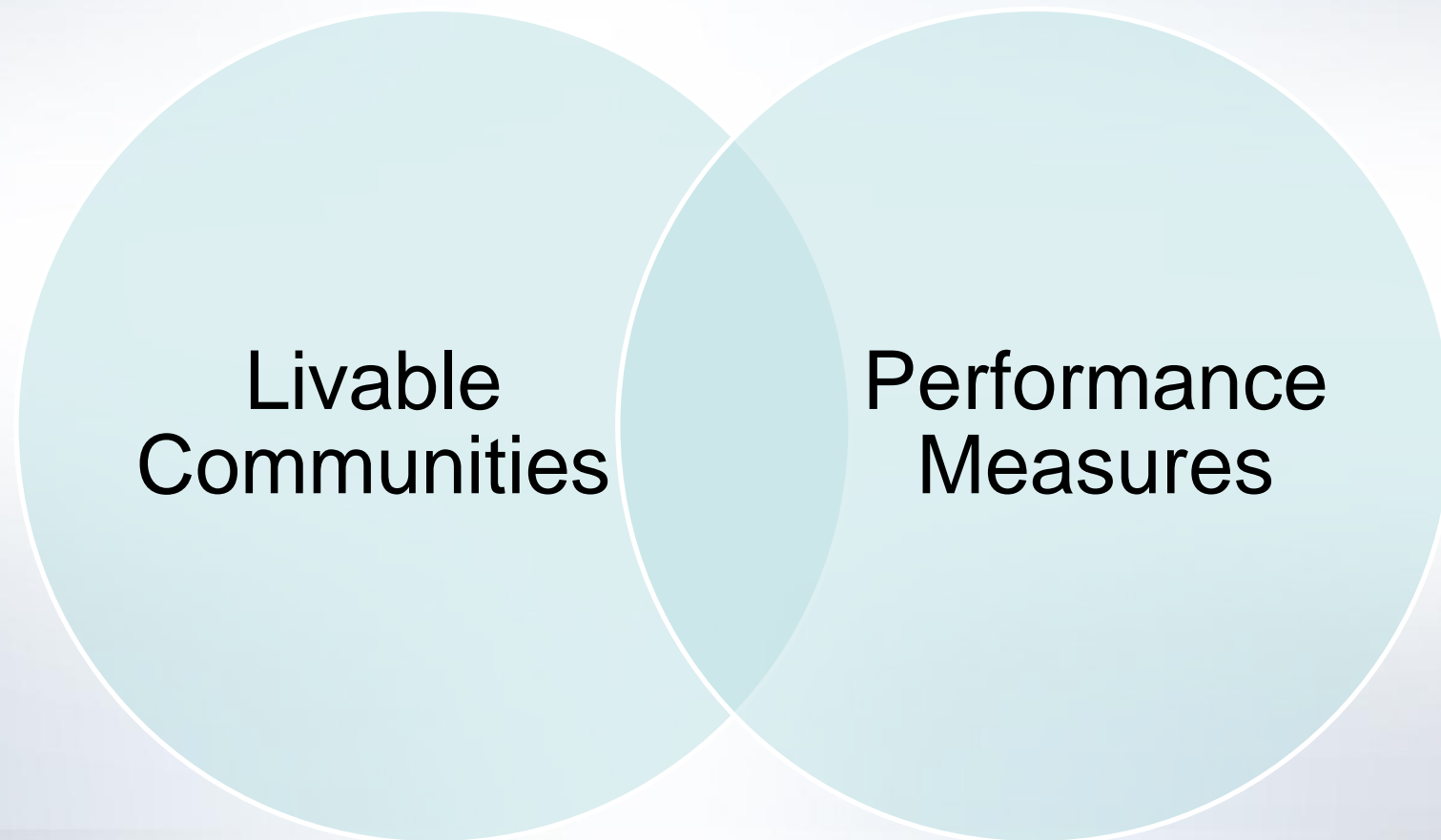


# Observations

- Essential inter-relationship:
  - Livable Communities and Performance Measurement
- Key concepts
- Planning and decision-making processes



# The Intersection is Critical



# Performance Measures: Key Concepts

## Clarity of key concepts in essential

- **Performance Based Planning** – holistic, continuous approach
  - Broad long range goals (local, also regional, state, federal)
  - Measures appropriate to goals
  - Performance data to analyze alternatives – forecast, collect
  - Apply measures throughout planning process
    - To guide decisions
  - Measures to monitor and evaluate results
  - Feedback: to adjust on-going planning process
- **Goal** – broad statement of what is to be accomplished
- **Performance Measure** – indicator that evaluates how well something is performing; qualitative, sometimes quantitative



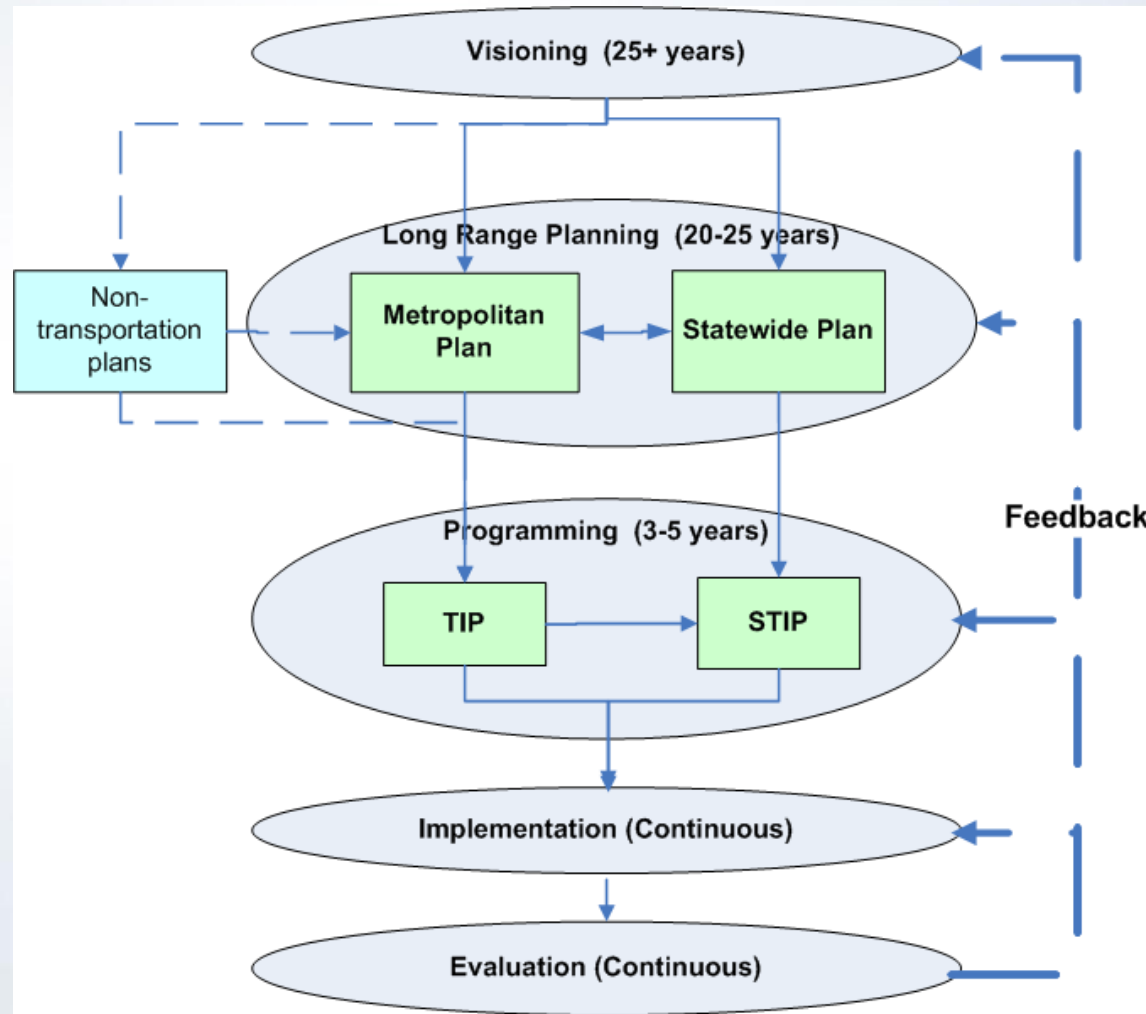


# Performance Measure: Key Concepts

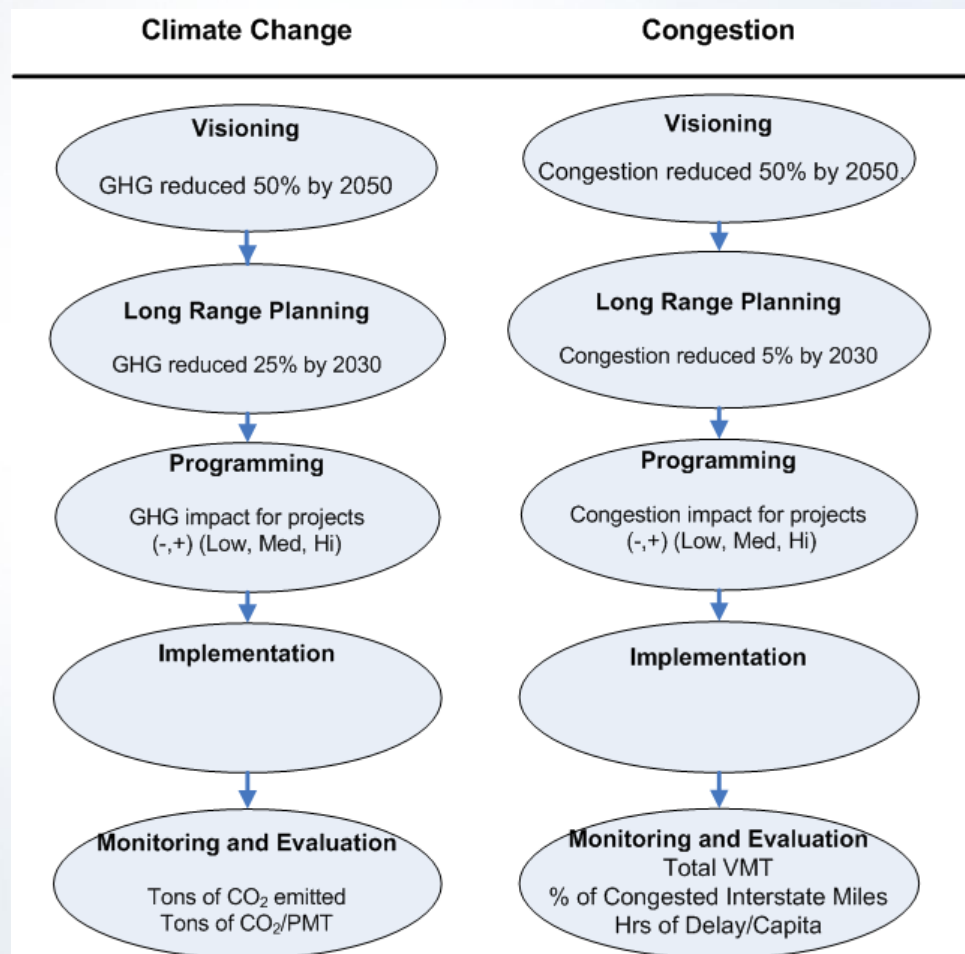
- **Output Measure** – level of activity from plan, program, project
  - Hours, miles of transit; tons of salt/mile of roadway
- **Outcome Measure** – how effectively policies, plans, projects accomplish goals
  - Injuries/million miles, CO<sub>2</sub>/vehicle mile, walk access to transit
- **Process Measure** – how well planning activities meet requirements
  - Effectiveness of public involvement, institutional collaboration, fiscal constraint
- **Target** – translates goals into quantifiable, measurable, realistic terms, expressed in PMs; agency commits to results
  - Reduce road fatalities/capita by 10% in 5 years
  - Reduce transport CO<sub>2</sub> by 20% of 2005 levels by 2020



# Volpe Center Framework: Performance-Based Planning



# Examples of Holistic Approach to Performance



# Challenges

- Challenge 1: Operational and flexible definition of livability
- Challenge 2: Integrating federal, state, regional, and local transportation and livability goals
- Challenge 3: Rural Livability and the role of PMs
- Challenge 4: Measuring health benefits
- Challenge 5: Estimating community economic impacts
- Challenge 6: Cross-sectoral integration -- bringing all the elements together
- Challenge 7: Capacity building





# Challenge 1: What is a Livable Community?

- Clarity is critical: to have an operational definition for each locality.
  - What problems to solve? What needs to be different? What results?
  - Measurable outcomes are critical
- Flexibility is essential – no single model
- Must make sense to decision-makers and public
- Explore relationship between livability and sustainability
  - Different: but key connections
- Sustainability goals (3 E's):
  - Economic, Environment, Equity
  - Which outcomes for livability?

## Research opportunities:

- Communications, Education
- Consensus Building
- Collaborative Planning



## Challenge 2: Integrating federal, state, regional, local goals

- All are relevant to transportation decisions that advance livable communities
- Policies, funding, technical assistance are building blocks
- How to integrate to establishing supportive roles and decision-making processes?
- May need to combine diverse and complex goals
  - **Outcome goals:**
  - Traditional: congestion, safety, state of repair
  - Non-traditional: affordability, access, equity, jobs, quality of life
  - **Process goals:**
  - Public involvement, collaboration with stakeholders, realistic financial planning

### Research opportunities:

- Case studies of effective integration (MPOs, state DOTs, transportation authorities)



# Challenge 3: Rural Livability and PMs

- How does rural livability differ from urban?
- What does transportation contribute?
- How to reflect in goals, outcomes, PMs?
- Measures must move beyond traditional:
  - Transit trips, \$/Trip or Mile are limited
  - Consider access: for target populations and destinations
  - Co-Benefits -- household affordability
- Island Explorer, Acadia/Ellsworth, Maine
  - National Park (environment, tourism)
  - Community travel: jobs, housing, health
  - Affordability for seniors, disabled

## Research opportunities:

- Integration of transportation, health, housing plans/programs
- Role of PMs; technical and institutional





# Challenge 4: Estimating health impacts

- Growing interest in health as livability goal
- Move beyond related traditional goals:
  - e.g., improve safety and air quality
- What are health benefits of increased physical activity from walking/biking?
- Access to health-related destination
  - Healthy food (“food Islands”)
  - Medical care
  - Aging in place
- Health: key goal of Congressional Nonmotorized Pilot Program

## Research opportunities:

- Standardized measures of walking/biking, tools to estimate health/economic benefits
- Best practice to incorporate within transportation planning and decisions (MPOs, local communities)

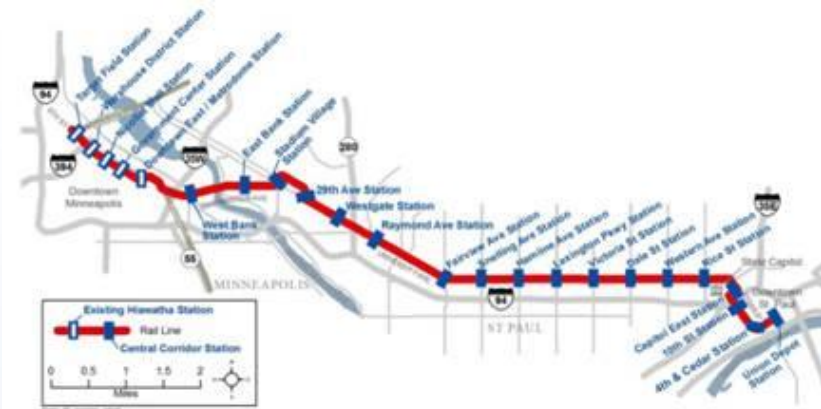


# Challenge 5: Estimating community economic benefits

- Economic development and jobs are key benefits of transportation investments.
  - New employment
  - Improved options for access to work and to training
- Key issues
  - Distribution of benefits – equity
  - Interaction of land use-transportation
  - Incorporate PMs in transportation planning
- Twin Cities: current/future light rail line

## Research opportunities:

- Data & forecast tools for meaningful PMs
- Successful applications for decisions
- Communication to citizens groups



# Challenge 6: Cross-sectoral integration

- Challenge 2 deals with vertical integration of planning by transportation agencies
  - Federal, state, regional, and local, for livable communities
- In contrast, challenge is newer: involves horizontal integration, across sectors
  - Transportation with land use, economic development, housing, health sectors
- Brings complex assortment of actors around the transportation table
  - Different agendas, priorities, clients, regulations, financial resources, and technical processes
- Key transition from recognizing relevance for livability to mainstreaming new considerations into transportation decisions
  - Performance measures can translate goals into agreed-upon outcomes and combine with traditional goals/measures in planning process
    - For example: land use/transportation options
    - Household affordability (housing + transportation): how about health costs?

## Research opportunities:

- Refine data and measures
- Case studies of technical and institutional integration; incremental progress





# Challenge 7: Capacity building

- Working across sectors: transportation, land use, economic development, housing, environment, health
- Potential and limits of cross-training
  - Do transportation planners also need to be public health, housing, and economic development experts
- Limits of direct expertise: need to rely on coordination and collaboration
- Key role for performance measures: technical resources to communicate, compare, and decide how to make a community more livable

## Research opportunities:

- New core competencies for practitioners
- Inter-disciplinary training: how much?
- Focused collaboration across sectors: when, where, and why in the process?
- Integrated plans: with performance measures to implement
  - Transportation and housing, economic development, health, environment
  - And vice versa



# Conclusion

- Clarity of concepts is essential for Livable Communities and PMs
  - Compounded importance to realize potential of connections
  - What goals, what results, what metrics?
- PMs are critical as basis for decisions, transparent results
  - Basis for outcomes and targets for each concept of livability
- Flexibility: no absolute concept of a livable community
  - PMs must accommodate this flexibility
- Data availability: key concern to match range of livability goals
- Capacity building: between levels of government and sectors
- Incremental approach to improve connections
- Value of best practices research on integrated approaches
  - Planning to regional scale of individual projects: role of PMs
  - Cross sectoral collaboration
- Inter-disciplinary approach is essential

