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**STRIDE**

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Innovation, Development and Education Center

# Final Report

## Livability Performance Measures to Transportation Plans and Projects

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## ABSTRACT

From July to September of 2014, teams from the Georgia Institute of Technology and North Carolina State University hosted five workshops in the southeastern United States to assist localities in developing performance measures to be used in transportation and comprehensive planning. The workshops were funded by the Southeastern Transportation Research, Innovation, Development and Education (STRIDE) Center at the University of Florida, and leverages the Federal Highway Administration (FHWA) Community Vision Metrics tool to identify context-specific livability performance measures. This report summarizes the workshop methodologies, results, lessons learned, and concludes with reflections on the project. Detailed summaries of each workshop are included as appendix items.

## EXECUTIVE SUMMARY

From July to September of 2014, teams from the Georgia Institute of Technology and North Carolina State University hosted workshops in five localities: Atlanta, Georgia; Broward county, Florida; Greenville, Mississippi; Huntsville, Alabama; and Asheville, North Carolina. Each workshop was developed in consultation with a host organization, and focused on the development of performance measures that could be used as part of a transportation or comprehensive planning process. Focusing on livability-oriented outcomes, participants learned how to select performance measures using the FHWA Community Vision Metrics tool and evaluated performance measures according to criteria provided in the workshop.

The primary product from these workshops was a more developed understanding of performance-based planning and a list of performance measures that could be carried forward as host organizations continued the planning process. The two teams also prepared written summaries for the use of the host organizations.

Findings from all five workshops are briefly summarized below:

- Because results from the workshops were largely shaped by the participants, future workshops should include as diverse a representation of community interests as possible.
- When visioning occurs as part of a performance measures exercise, goals will be grounded in tangible outcomes and fewer implementation issues will develop later in planning.
- Older, more sophisticated planning organizations may especially benefit from a series of conversations (in addition to a day-long workshop) to fully reorient organization culture to incorporate performance-based planning.
- The Community Vision Metrics tool provides over 1200 measures that can be used to identify performance measures, including livability-oriented performance measures. To best take advantage of the tool's measures and search features, iterative searches may be necessary.
- It is essential to employ quality criteria to help participants critically evaluate the many performance measures included in the Community Vision Metrics tool in order to work through challenges that may arise when implementing measures.
- In order to use performance measures in a way that relates to customer experience and concerns, there is a need for agencies to understand the difference between types of performance measures and the best application of each type.
- In order to introduce the concepts of performance-based planning, develop criteria, and interact with the Community Vision Metrics tool, it may be beneficial to hold several workshops over a series of days.
- Participants connect strongly to the concept of performance measurement. These workshops can develop relationships, neutralize biases, and co-create shared outcomes.

This project supports a shift in mindset for many transportation professionals, and helps to build support for greater accountability and transparency through the use of performance measures. By considering transportation planning from the customer's perspective and in the context of livability, this project supports localities seeking to incorporate livability-oriented performance-based planning to communicate the value of transportation investments.



## INTRODUCTION

In partnership with the Georgia Institute of Technology (GT), the Center for Transportation and the Environment (CTE) at North Carolina State University (NCSU) hosted a series of technical assistance workshops for transportation agencies in the Southeast. These workshops utilized the FHWA Community Vision Metrics tool to identify context-specific livability performance measures as part of a planning process that also considered other agency needs with regard to performance management. This technology transfer project leveraged the Community Vision Metrics tool to assist transportation agencies with developing performance-based plans and management processes that support livable communities.

This technology transfer project addresses a critical need in practice: transportation agencies are being asked to demonstrate the value of infrastructure investments in supporting livable communities. As transportation agencies face ever greater funding challenges, users of the transportation system are increasingly demanding that projects demonstrate improvements to quality of life and livability. According to USDOT, livable communities are places where “transportation, housing and commercial development investments have been coordinated so that people have access to adequate, affordable and environmentally sustainable travel options.”<sup>1</sup> The concept of livability enables transportation practitioners to view transportation investment through the lens of their customers, the traveling public. Livability acknowledges that transportation is not an end in itself, but a means to many ends. Transportation provides access to work, home, entertainment, healthcare, schools, family members, community activities, shopping and much more. Livability asserts that the success of transportation plans and projects include tangible measures that reflect quality of life considerations important to the users of the infrastructure, as well as the communities connected by transportation projects. This project helps transportation agencies better equip themselves to integrate livability performance measures into existing decision-making processes, in addition to enabling agencies to establish measurable goals.

Each workshop was tailored to the unique needs of the public agency, focusing on planning needs and/or performance management considerations. All workshops identified potential performance measures from the Community Vision Metrics tool that were either linked to goals or to current performance management activities. Two of the workshops specifically addressed challenges with current performance measurement systems or activities.

The agencies selected included two municipalities updating comprehensive plans, one regional commission (which is also an MPO), one county government, and one Metropolitan Planning Organization (MPO). In some cases, host organizations were well into the visioning stage of the process, with goals established for the plan effort. In one organization, a visioning exercise was used to facilitate the development of goals for the transportation component of the comprehensive plan. The workshops covered a range of differently-sized Metropolitan areas, including one small (Asheville), three medium-sized, and one large (Atlanta).

<sup>1</sup> USDOT, 2013, Strategic Plan - VI. Livable Communities,  
[http://www.dot.gov/sites/dot.dev/files/docs/SecVI\\_Draft%20Strategic%20Plan%20OMB\\_508.pdf](http://www.dot.gov/sites/dot.dev/files/docs/SecVI_Draft%20Strategic%20Plan%20OMB_508.pdf)

This report begins by describing the methodology used by the two teams as the project proceeded through four phases: 1) Transportation agency selection; 2) Facilitated Workshop; 3) Synthesis and Dissemination of Workshop Results; and 4) Evaluation of Workshop Efficacy. For each of the agencies selected, the NCSU and Georgia Tech teams developed facilitation strategies, prepared summary reports, and evaluated the workshop through surveys (for the complete summaries, see Appendix items A through E). Following the methodology, the main results of the workshop are presented, including lists of performance measures and key findings from surveys distributed at the close of each workshop. Lessons learned includes observations from all five workshops with regard to participants, the role of the planning process in shaping the workshop, the Community Vision Metrics Tool, performance measure evaluation criteria, types of performance measures, and the scope and time involved with running the workshops. Finally, in the conclusion, the team includes several observations on the significance of the project, and the importance of conducting livability-oriented performance-based planning.

## METHODOLOGY

In order to identify potential host organizations, the teams sent emails to the membership of planning-related organizations, including the Transportation Research Board (TRB) and the American Planning Association (APA). The teams also solicited the Federal Highway Administration (FHWA) and distributed handouts at the 2014 Transportation Research Board's (TRB) Annual Meeting. Through this solicitation effort, five localities were selected as host: Atlanta, Georgia; Broward County, Florida; Greenville, Mississippi; Huntsville, Alabama; and Asheville, North Carolina.

Each workshop was developed in consultation with its host organization. All of the hosting agencies were either in the midst of a planning process, or were more generally interested in advancing the use of performance measures in future planning efforts. Both the Georgia Tech team and NCSU team designed the workshops (more on the methodology in the paragraphs below) to develop performance measures that could be used in the planning process and to foster an expanded understanding of performance-based planning for livability. The Georgia Tech team facilitated workshops with technical staff only (planning-related professionals in partner organizations). This afforded the opportunity to discuss performance-based planning within a broader context of transportation performance management. These two workshops included time for participants to become familiar with the Community Vision Metrics tool, so that the tool could be used in future planning efforts. The NCSU team facilitated workshops that included technical staff, members of the public, and other political stakeholders. The NCSU team did technical groundwork with the Community Vision Metrics tool prior to the workshops and vetted potential performance measures to be used in the workshops. This afforded the opportunity to build stakeholder consensus around livability-focused performance measures.

## ATLANTA, GEORGIA

The Atlanta Regional Commission (ARC)—which is also the metropolitan planning organization (MPO) for the Atlanta area—was interested in supporting its regional planning process (including the long range transportation plan) by exploring performance measures at a regional scale. ARC was also interested in beginning to build consensus about performance measures that could be used by multiple neighboring and overlapping regional organizations. Through several iterations of meeting with ARC staff, the Georgia Tech team developed a workshop agenda that would inform longer-term planning efforts and initiate a longer-term process of discussion between participant organizations. ARC specifically requested that the meeting include only technical staff from partner organizations, including the state DOT and two neighboring MPOs, all of which were at different stages of performance management maturity and regional planning processes.

This four-hour workshop used participants' experience of performance measures as a lens to focus discussion around performance-based planning. Participants identified desires, successes, and challenges with regard to performance management, and briefly presented on each agency's current activities with respect to performance-based planning. Participants identified shared goal categories in each agency's planning processes and selected three goal areas to focus their metric evaluation. The large group discussed what makes a good performance measure, considering "SMART" criteria (see Table 1). Throughout all large group discussions, the Georgia Tech facilitator took notes on large sticky note paper to distill participant comments, and these notes were displayed on the wall for reference throughout the workshop. In small groups, participants selected performance measures using the Community Vision Metrics searchable database tool and evaluated the measures according to the "SMART" criteria. At the end of the workshop, participants answered four "level of agreement" questions to indicate whether the workshop achieved key goals, and answered four open-ended questions. Following the workshop, to synthesize and disseminate the workshop results, the team completed a summary of the workshop. For more detail on the methodology used in this workshop, please see Appendix A.

**Table 1: Georgia Tech SMART Criteria and Guiding Questions**

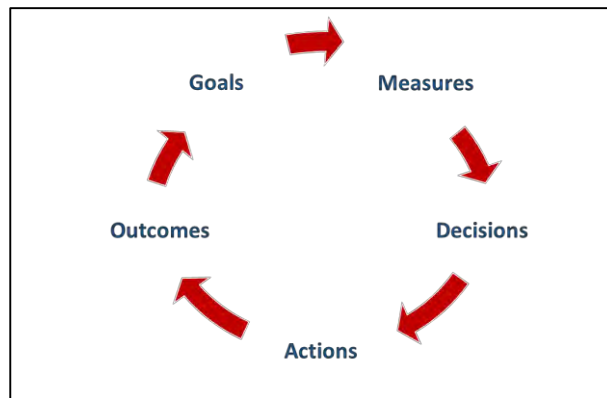
<b>S (Specific)</b> <ul style="list-style-type: none"> <li>• Is the desired outcome clear?</li> <li>• Who is the intended audience?</li> <li>• Is there a formula?</li> </ul>
<b>M (Measurable)</b> <ul style="list-style-type: none"> <li>• What data or modeling capacity is needed?</li> <li>• Who would be responsible for measurement?</li> </ul>
<b>A (Attainable/Achievable)</b> <ul style="list-style-type: none"> <li>• How do we 'move the needle'?</li> <li>• What are the constraints?</li> <li>• Who would be responsible for achievement?</li> </ul>
<b>R (Realistic/Relevant)</b> <ul style="list-style-type: none"> <li>• Can this help translate our goals into actions?</li> <li>• Are we comfortable being held accountable for this?</li> </ul>
<b>T (Time Sensitive)</b> <ul style="list-style-type: none"> <li>• Does this better address long- or short-range goals?</li> <li>• How often should this be measured?</li> </ul>

## BROWARD COUNTY, FLORIDA

The second workshop run by the Georgia Tech team focused more closely on the process of developing specific performance measures to be used in the local transportation planning process. In consultation with the Broward County MPO, and considering learning from the ARC workshop, the Georgia Tech team developed a detailed workshop agenda and presentation slides to aid facilitated discussion. The Broward County MPO issued invitations to workshop participants, who largely represented technical staff at local and regional transportation agencies.

This six hour workshop was designed to identify performance measures that could be used in the MPO's long range transportation plan (Commitment 2040), to link regional planning goals to plans and projects at other scales (such as corridor plans and a complete streets policy), and to generally expand participants' understanding of a performance-based approach to planning.

**Figure 1: Performance Management Cycle**



Participants brainstormed attributes of performance measurement/management, and linked these attributes to a graphic depicting the performance management cycle (see Figure 1). Participants then introduced their work, along with achievements and challenges in performance management. The Georgia Tech team led participants through a facilitated discussion on the relationship between MAP-21 goals and livability, and identified needs and challenges related to tracking supply-oriented measures and demand-oriented measures. After discussing the “SMART” criteria (Table 1), participants split into small groups to evaluate measures currently listed in Commitment 2040, then identified new measures using the Community Vision Metrics tool. Similar to the Atlanta workshop, the facilitator took notes through all conversations, and these notes were displayed for reference throughout the workshop. Each small group identified champions to carry out specific action items related to using the Community Vision Metrics tool in future efforts, and conducting more detailed technical evaluation of the performance metrics identified during the workshop. As before, participants answered four “level of agreement” questions to indicate whether the workshop achieved key goals, and answered four open-ended questions. The Georgia Tech team also synthesized and disseminated the workshop results by completing a summary of the workshop. For more detail on the methodology used in this workshop, please see Appendix B.

**Table 2: NCSU Quality Criteria**

**Understandable** – meaningful and easy to understand for general public and decision-makers

**Available** – data supporting measure are tracked over time at a relevant geographic scale

**Feasible** – data supporting measure do not entail significant costs and/or resources (i.e., advanced geographic information systems)

**Relevant** – the measure is robustly linked to the outcome and change in the measure implies progress towards the identified goal

## GREENVILLE, MISSISSIPPI

The first workshop conducted by the NCSU team focused on developing performance measures that would align with the city’s comprehensive planning effort. For each of the workshops a detailed facilitation strategy was developed and an agenda shared with participants. The facilitation strategy documents included a specific process for each agenda item, including desired outcomes, responsibility of the facilitators, and necessary supplies. The workshop was attended by largely non-technical community members selected by the Mayor. This seven-hour workshop was designed to identify performance measures for each of the nine comprehensive plan goals. Orion Planning Group presented on the current planning efforts, and the NCSU team presented on principles of performance management and use of the Community Vision Metrics tool. Then, participants were separated into small groups and assigned 2-3 goals. Participants were asked to review pre-selected lists of performance measures from the Community Vision Metrics tool, and adapt the list to better fit the Greenville context. The NCSU team distilled themes in performance measure quality criteria literature into four criteria (see Table 2), which participants used to screen potential performance

measures. After performance measures were selected participants mapped performance measures to actions and goal areas to identify performance measures gaps. In order to evaluate workshop efficacy, the team distributed surveys to participants with four open-ended questions. Finally, in order to best synthesize and disseminate the workshop results, the team prepared a summary to share back with the city of Greenville. For more on the methodology, see Appendix C.

## HUNTSVILLE, ALABAMA

The second workshop run by the NCSU team focused on identifying tangible measures that could be used to measure the success of the transportation component of the Huntsville Comprehensive Plan. As before, the NCSU team prepared a facilitation strategy. Participants largely included technical staff from the City of Huntsville, as well as several consultants. This seven-hour workshop used pre-selected performance measures chosen by the NCSU team by searching the Community Vision Metrics tool. Three presentations were prepared, including an update of local planning efforts, an overview of the state of the practice in livability performance measurement, and a tutorial on the Community Vision Metrics tool. Following the presentations, the NCSU team led participants through a visioning exercise to identify goals related to the transportation component of the comprehensive plan. Participants were then split into small groups and asked to screen a list of pre-developed measures related to these goals, evaluating them



according to the quality criteria developed by NCSU (see Table 2). Once performance measures were screened for quality, the participants identified the best 4 to 5 measures for each goal. Finally, participants selected three important measures to identify actions (projects and policies) that would move the performance measures gauge to achieve the desired goal. The team ended the workshop by distributing surveys to participants with four open-ended questions. Finally, in order to best synthesize and disseminate the workshop results, the team summarized the results and shared the report with the city of Huntsville. For more detail on the methodology used, see Appendix D.

## ASHEVILLE, NORTH CAROLINA

The final workshop run by the NCSU team was developed in partnership with the French Broad River Metropolitan Planning Organization. The purpose of the workshop was to reach initial consensus on a list of performance measures associated with goal areas developed over the course of the MPO's Metropolitan Transportation Plan update. The team developed a similar facilitation strategy as was used in the previous two workshops. Participants largely included technical staff from the MPO, the state DOT, and Citizen's Advisory Committee. This seven-hour workshop also used pre-selected measures chosen by the NCSU team from searching the Community Vision Metrics tool. The NCSU team prepared a presentation introducing concepts of performance-based planning, the use of performance measures to target livability, and a tutorial on the Community Vision Metrics Tool. Participants were then split into small groups, assigned two goals, and asked to evaluate the pre-selected list of performance measures according to the quality criteria developed by the NCSU team (see Table 2). Participants selected their best measures from this exercise and posted the results on a sticky wall. Participants were then assigned two different goals and asked to evaluate whether the performance measures listed corresponded to action items developed earlier in the planning process, and identify new measures that would better reflect those action items. Finally, participants were asked to vote on all of the performance measures developed over the course of the workshops to select the performance measures most important for project prioritization. Participants ended the workshop by responding to the same survey of four open-ended questions. The MPO was particularly interested in reviewing the workshop results, and the team summarized the workshop and shared that report as before. For more detail on the methodology, see Appendix E.

## WORKSHOP RESULTS

At the conclusion of each workshop, both teams documented the results in a summary case study format. The summaries included site context, planning context, workshop approach/process, and workshop results/outcomes. Summaries by each team also included a concluding section with either recommendations for attending agencies to carry forward a performance-based approach in their planning processes, or recommendations for workshop facilitators when conducting future discussions on performance management. These summaries were shared with the hosting organizations.

Participants have also contacted workshop facilitators to provide positive feedback on carrying the work forward. After the Broward County workshop, a participant emailed the workshop facilitator from Georgia Tech with a list of refined performance objectives and measures, which were being developed based on learning from the workshop. The City of Greenville adapted the performance measures developed during the workshop facilitated by the NCSU team, and included those measures in the final comprehensive plan.

In the case of the workshops run by the GT team, the workshops were intended to develop a greater shared understanding around livability-oriented performance-based planning. In surveys distributed following the two workshops, 54% and 100% of responses, respectively, reported having a greater understanding of how their agencies could use performance measures to promote livability. The ARC workshop was developed to foster conversation between regional stakeholders; 77% of evaluation responses from that workshop indicated that workshops encouraged valuable conversation. Both workshops also produced follow-up action items related to specific performance metrics. For more detail on these workshops, see Appendix items A and B.

In the case of the workshops conducted by the NCSU team, the main product is a list of performance measures for all plan goals that can be carried forward over the course of the planning process. Participants were asked to provide comments on a survey distributed at the end of each workshop, and generally indicated that this process of identifying performance measures was a valuable exercise. When asked what they liked about the workshops, the most commonly-repeated comments identified the level of engagement and interaction (21 responses total), and the goal-oriented nature of the workshop (6 responses). See Appendix items C through E for more detail on these workshops.

The list of measures developed through all the workshops are included below.

## **ATLANTA, GEORGIA**

### **Transportation for Economic Development**

User experience: average delay or cost of delay per capita

Employer access: percent of manufacturing employment within a certain distance (x) of multilane highways

### **Accessibility and Vulnerable Communities**

Average travel time to jobs for disadvantaged populations via transit

Pedestrian safety and access

### **Public Health**

Miles of bicycle lanes

Emissions

Percent transport in active modes

## BROWARD COUNTY, FLORIDA

### Complete Streets Initiative Outcomes

- Monetized crash costs
- Number of fatal and incapacitating injury crashes
- Average commute travel time
- Mobility by income group
- Property vacancies
- Sales tax revenues

### L RTP/TIP

- Percentage of the population leaving the area for work
- Percentage of the population within x miles of the site
- Average travel time to major employment centers

## GREENVILLE, MISSISSIPPI

### Strategic Direction #1: Stabilize our Population and Enhance our Local and Regional Economy

- Graduation rate from high school
- Livable visage
- Number of four-year degrees
- Household income
- Number of higher education programs
- Percentage of population living or working in core neighborhoods
- Number of vocational programs
- Sales tax revenue
- Percentage of substandard residential units
- Job growth
- Miles of roadway per person      Percentage of vacant/abandoned properties
- Number of certified professional teachers

### Strategic Direction #2: Stabilize Families and Neighborhood Communities

- Divorce rate
- Home ownership rate
- Enrollment in early childhood programs
- Percentage of jobs that pay a livable wage
- Percentage of children living in single parent homes
- Percent of neighborhoods with at least one registered neighborhood/civic/faith-based organization
- Number of registered neighborhood/civic/faith-based organizations
- Average time spent receiving welfare assistance
- Percentage of population on welfare
- Percentage of families receiving aid (AFDC)



**Strategic Direction #3: Promote and Facilitate Excellent Project and Environmental Design**

- Areas by Ward of dilapidation and areas cleared of blight
- Tickets issued for littering and consistency in enforcing policy for trash and litter
- Percentage of residential units that are substandard
- Number of building permits
- Percentage of streets with street trees
- Average number of basic services within walking distance
- Percentage of streetscapes improved
- Percentage of brownfields redeveloped
- Brownfields grant applications
- Number of people located in 50-year floodplain
- Percentage aquifer recharge area protected

**Strategic Direction #4: Promote and Enhance our Existing Strong Transportation and Mobility Infrastructure while Creating a Viable Network of other Mobility Options**

- Airport enplanements
- I-69 and 82 bypass metric
- Percentage intersections with crosswalks
- Intersection per square miles
- Percentage of children that walk or bike to school
- Landscaping along greenways
- Number of billboards visible at gateways
- Public signage at gateways
- Percentage of population within x miles of recreation destinations
- Percentage of roads with bike lanes
- Percentage of roads with sidewalks
- Average route directions

**Strategic Direction #5: Preserve Open Space and Promote Recreational Opportunities**

- Level of crime in and near park
- Park condition      Level of park usage
- Amount of park partners (adopt a park)
- Number of eco-tourism businesses
- Acres of parks in neighborhoods
- Population living within x distance of a park
- Enrollment in park programs
- Measure waterfront usage (recreational)

**Strategic Direction #6: Support Existing Public Facilities and Create a Sustainable Plan for Maintaining Public Facilities into the Future**

- Number of water/sewer hookups in redevelopment areas
- Number of cultural events
- Quality of maintenance of public infrastructure
- Frequency of crime at cultural sites
- Number of visits to public/cultural facilities
- Cultural amenities per capita

- Ratio of infill vs. greenfield development
- Building activity in designated redevelopment areas

**Strategic Direction #7: Promote Well-planned and Well-designed Quality Living Spaces, with a Variety of Housing Types and Sizes Available**

- Number of structures rehabbed or taken out of commission
- Land use density
- Ratio of infill to greenfield development
- Sales tax revenue in commercial center
- Percentage of residential units within x miles of incompatible uses
- Percentage of developments that are mixed use
- Percentage of all structures that conform to building codes
- Percentage of residential units that are substandard
- Average distance to jobs and services
- Acres of land per residential unit

**Strategic Direction #8: Facilitate the Creation of a Beautiful and Vibrant Commercial and Governmental Core of the City of Greenville**

- Number of jobs in city core
- New business starts in city core
- Total value of business loans in city core
- Percentage of population living within x miles of commercial nodes
- Number of new developments that meet form-based codes/standards
- Number of services in city core

**Strategic Direction #9: Build on Existing Industrial Development Creating New Opportunities for the Development of Industrial Uses and Employment Centers**

- Volume of goods through port/rail
- Total freight exports
- Number of medical-related establishments
- Increase in medical-related employment
- Number of successful business startups
- Percentage of jobs that pay a livable wage for a family
- Total employment by sector
- Total available access to high-speed digital internet (computers)

**HUNTSVILLE, ALABAMA**

**Goal 1: Providing an expanded greenway system for regional connectivity and convenience**

- Number, Percentage of destinations with direct access to greenway (within 1/2 mile)
- Number of amenities per mile (benches, shelters, restrooms, water fountains)
- Greenway utilization rate
- Continuity (number of distinct vs. connected links)

**Goal 2: Provide a sustainable and interconnected transportation system to enhance the quality of life**

- Walkscore (beta version)

- % of streets w/presence of benches, bike racks, lighting, frontage activity
- Percentage of Households (HHs) living in core neighborhoods/gathering spots/nodes
- Perception of neighborhood safety via survey
- Percentage of population affiliated with chronic disease associated with inactivity and transportation pollution
- Percentage of households with transportation costs equal or greater than 15% of household income (or greater than or equal to 45%)
- Percentage of streets built as Complete Streets
- Per capita Vehicle Miles Travelled (VMT)
- Travel time reliability
- Percentage children who walk/bike to school
- Percentage streets with sidewalks/bike facilities of Level of Service (LOS) A or B
- Travel time by income group

**Goal 3: Increase local (small-scale) multi-modal connectivity and access**

- Percentage of road miles served by more than 1 mode of travel; break out- by specific nodes, by types of road classifications (infrastructure gap)
- Percentage of transportation dollars dedicated to enhancing accessibility across all modes (funding gap)
- Percentage of streets within 1000 feet of schools, social services, town centers, and retail
- Population living within x miles of transit stop
- Measure modal share for work commute

**Goal 4: Increase safety of transportation system for all users (of all ages)**

- Percentage of streets with speed limits incompatible with surrounding land use
- Percentage of streets with sidewalks and bicycle facilities
- Average number of per capita minutes of physical active travel per week – No. of motor vehicle crashes/ facilities Number of speeding violations annually

**Goal 5: Create an environment that encourages increased pedestrian and mixed modes of transportation**

- Percentage of population living within x miles of mixed use development
- Percentage of streets with sidewalks and bicycle facilities
- Average per capita minutes of physically active travel per week – No. of motor vehicle crashes/fatalities
- Percentage of streets with trees/improved streetscapes

**Goal 6: Provide reliable and consistent multi-modal traveler information**

- Website/app analytics (hits, mode split, etc.)
- Survey results about awareness and use of traveler information sources
- Average response time of emergency responders
- Miles of regional roadway with variable message boards

**Goal 7: Provide convenient express transportation options between large intraregional destinations**

- Travel time comparisons (Bus Rapid Transit (BRT)/High Occupancy Vehicle (HOV) vs. Passenger)
- HOV Volume and BRT Rail Ridership

Annual Revenue (BRT/Rail)

Percentage of population within x miles of high speed rail stop

## ASHEVILLE, NORTH CAROLINA

### Goal 1: Improve multi-modal and non-motorized transportation options

Miles of multi-modal facility and connectivity metric

Dollars funding for non-motorized transport vs. entire funding

Number of walkable neighborhoods

Percentage signalized intersections with pedestrian crosswalks and signals

Percent eligible roadway projects as Complete Streets

Mode share metric

Annual bike/ped injuries/fatalities

Number of meetings between city/county governments around non-highway infrastructure

Increase in applications for allocated funds (TIGER etc.)

Complete a study on potential funding sources

Number of potential projects eligible for HSIP (if eligible)

Number of meetings hosted with local governments on potential funding

### Goal 2: Improve safety

Decrease annual number of motor vehicle and bike/ped injuries and fatalities

Increase number of facilities complying with ADA

Increase percentage of signalized intersections in a corridor with ped crossings and signals

Increase percentage of streets with speed limits and other road characteristics compatible with surrounding land uses

Decrease crash rates in low income/minority communities

### Goal 3: Address congestion and bottlenecks (trip predictability)

Multi-modal Level of Service (LOS)

Average travel commute times to work

Network connectivity/redundancy

Travel time reliability and info availability

Average time to clear incidents and number of incidents

Mode split and single occupancy vehicles (SOV)

### Goal 4: Improve public transit options

Increase percentage of population within 1/2 mile of frequent transit service (what is 'frequent'?)

Increase employment locations served by transit

Increase annual public transit passenger miles per capita

Increase local funding for transit (public and private dollars)

Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)

### Goal 5: Improve and expand community and public involvement

Increase meaningful public input into controversial projects

Projects reflective of community input

Increase in outreach to groups representing under-represented populations  
 Increase in number of people participating in public involvement events  
 Increase use of multiple outreach tools (meetings, charrettes, social media, surveys, etc.)

#### **Goal 6: Ensure changes respect our unique places and environments**

Context-sensitivity metric (TBD)  
 Combined housing and transportation costs  
 Economic metric (TBD)  
 Percentage change in state funding for bike/ped  
 Percent undeveloped land used for transportation infrastructure  
 Land paved for transport facilities

#### **Goal 7: Improve and develop planning tools**

Up to date travel behavior data  
 Back-test model at beginning of model cycle  
 Improve freight and visitor models  
 Review plan annually for updates

#### **Goal 8: Seek ways to maintain and improve safe freight movement within and through the region**

Freight incidents  
 Travel time to essential markets  
 Number of enterprises "last mile"  
 Loading zone adequacy  
 Freeway segments with significant grades (TBD)  
 Truck hours of delay  
 Lane matching (number of companies)  
 Freight restrictions (off-peak delivery and pickup)  
 Miles of active vs. inactive corridor (rail)

The measures, chosen by participants according to the criteria chosen by the two teams, reflect a number of common themes. At least three of the workshops identified measures with a similar focus: employer access to critical transportation infrastructure, percentage of roadway miles developed with bicycle lanes, mixed use development, and a mode share metric.

There is variation between workshops because no two areas in the country are exactly alike, and there will always be the need to identify context-based performance measures that align with the unique interests and needs of the varying state, regional and local governmental agencies with jurisdictional authority over transportation plans and projects. However, the similar workshop outcomes demonstrate that livability concerns are a unifying factor that can help relate transportation performance across different contexts and special scales. Participants at the Atlanta workshop observed that, even though the three MPOs represented in the conversation operated in

#### **Table 3: Federal Livability Principles**

1. Providing More Transportation Choices
2. Promoting Equitable, Affordable Housing
3. Enhance Economic Competitiveness
4. Supporting Existing Communities
5. Coordinate Policies and Leverage Investments
6. Value Communities and Neighborhoods

different (albeit neighboring) contexts, they had many of the same livability concerns. By extension, a livability focus can help link context-based measures to larger national transportation goals. This connection was especially made during the Broward County workshop, in which participants discussed MAP-21 goals and the six Livability Principles espoused by USDOT, EPA, and HUD's Partnership for Sustainable Communities (Table 3 on the previous page).

## LESSONS LEARNED

For those seeking to host a workshop in line with what has been completed by the two teams from Georgia Tech and from NCSU, several lessons should be kept in mind. Broad lessons from all five workshops are organized into categories below, but for specific lessons learned for each workshop, please see appendix items A through E.

### PARTICIPANTS

Particularly in the workshops run by the NCSU team, the team found that performance measures were chosen that reflected the values of the workshop participants. Future workshops should include a more diverse group of stakeholders in order to ensure that the measures reflect a diverse set of interests and needs. The NCSU team generally aimed to split the participants attending the workshops into thirds: one-third technical staff, one-third community members, and one-third policy makers (elected officials). This was to ensure a broad representation of interests, expertise and perspectives. While it is challenging to get such a broad representation in workshops, there are many benefits. A diverse representation ensures that performance measures reflect larger governmental and jurisdictional interests, offers a customer focus on delivering solutions that support quality of life considerations, includes technical expertise on data availability, reflects technical capacity, and takes into consideration other implementation issues. In addition, a diverse group of stakeholder participants may be useful in building greater accountability in the planning process, identifying partners who can support broad-reaching measures, and developing relationships outside of the planning process.

### PLANNING PROCESS

Of the workshops completed as part of a planning process, only one included a visioning component where goals were developed. Conducting a visioning exercise alongside with identifying performance measures evaluation creates a dialog between participants that enables the selection of effective measures. When visioning occurs as part of the performance measures exercise, goals can be tested for measurability. In short, the performance measures exercise grounds goals in tangible outcomes which can be measured and tracked.

### ORGANIZATIONAL CULTURE

This project dealt with a wide range of agencies; some that are well-established with sophisticated processes and tools, and others that are embarking on their respective planning



processes for the first time. Since performance management and livability are both relatively new ‘hot topics’ in transportation planning, it may be easier for younger agencies to comfortably and quickly incorporate these considerations. More sophisticated planning organizations may need additional time to reorient their organizational cultures, establish procedures, and reorient internal and external relationships to a new way of approaching planning that includes a greater focus on livability and performance. This process of reorientation is likely to require a series of conversations that develop and incrementally incorporate a performance-based framework.

## COMMUNITY VISION METRICS

The Community Vision Metrics tool provides many ways to search for livability-oriented performance measures, broken down by livability area of interest, geographic scale, setting/density, and transportation mode. Users may choose from more than 1200 measures of livability. In both workshops where participants searched through the database, participants commented that iterative searches were important in order to capture measures that meet criteria important for the agency—whether it be “SMART” criteria or other critical factors. Users of the tool also found that the geographic scale was not as useful as the livability area of interest.

The NCSU team used the tool to search for potential measures before the workshops. This allowed for more time during the workshops for discussions around selecting performance measures in alignment with goals and actions. The team found the tool very useful for identifying potential measures, particularly using the livability areas of interest. The other filters were not as useful, but that may be because all three workshops were for a larger planning area (not smaller geographies) and all modes were considered important by participants.

## PERFORMANCE MEASURES EVALUATION CRITERIA

Both the Georgia Tech team and NCSU team chose quality criteria to help participants critically evaluate performance measures selected through the Community Vision Metrics tool. The use of criteria is an important step to ‘put boots on the ground’ with chosen performance measures, and helps participants to begin to work through challenges that may arise when implementing measures. Participants at all workshops engaged well with the discussion of criteria, and identified many factors that could influence the selection of performance measures, including the agency’s scope of influence, organizational capacity, or budget. However, when participants lack technical expertise, the evaluation criteria discussion can be limited in scope. Non-technical participants may not know what data is available or reasonable to collect, which suggests a need for subject matter experts to either participate in the workshop or vet the measures in advance. Finally, agencies should be mindful of the option of using recognized criteria, such as “SMART,” or developing other criteria such as the set developed by the NCSU team (see Table 2). The most important consideration is that criteria be well-understood by participants before they are asked to screen measures. This can occur through facilitated discussions to either define given criteria (see Appendix A for an excellent example) or by developing new criteria.

## DIFFERENT TYPES OF PERFORMANCE MEASURES

Public agencies are accountable to their direct customers (e.g. transportation system users), the general public, and other political stakeholders. These agencies need performance measures related to the outcomes experienced and cared about by these customers and stakeholders. In order to ‘move the needle,’ agencies must also identify and track their influence on important outcomes through processes and outputs (i.e. actions and products) within their control. The participants at all five workshops commented on the importance of identifying measures relevant to both the planning process and to livability outcomes (called “area of concern” in the Community Vision Metrics tool). This underscores a need for workshop facilitators to educate participants and pay particular attention to the difference between types of performance measures (e.g. outcome, output, process), focus of performance measures (e.g. programs, policies, and projects), and the perspective of the measure (e.g. demand-oriented or supply-oriented). For example, in one workshop run by NCSU, the MPO had selected a goal and several actions that were largely process-oriented. The NCSU team recommended that the goal be moved to the Unified Program Work Plan (UPWP), and identify process-oriented measures that can be used for actions related to staff accountability.

## SCOPE AND TIME

In all of the workshops, participants frequently reported that although the amount of work accomplished was a great benefit, the process takes more time than is available in a one-day workshop. To more fully link performance measures to goals, objectives, and actions, several workshops may be necessary to introduce the concepts of performance-based planning, develop criteria, and interact with the Community Vision Metrics tool. The process of selecting performance measures is iterative: as participants reflect on the challenges associated with implementing measures that align with goals and actions, a new set of “best” performance measures may be developed. Goals and actions may also change. However, because these conversations build on each other, it is important to not lose momentum by allowing too much time to pass between conversations.

## FACILITATING COLLABORATION AND CONSENSUS

Particularly in the case of the workshop held in Greenville, Mississippi, participants represented community interests, but did not include technical or land use professionals. Focusing the conversation on performance measurement created an environment of collaboration, and allowed participants to transcend individual interest to focus on outcomes relevant to the entire transportation system. In Broward County, Florida, workshop participants also observed that some of the problems that individual agencies face within their respective ‘silos’ could be resolved through new partnerships that could be forged between participant agencies. For example, the public engagement processes of public health professionals could be leveraged to support data collection for public opinion-type performance measures needed by transportation agencies; such data collection is otherwise very costly, and sometimes cost-prohibitive. Beyond these examples,



each workshop provided a valuable forum to nurture buy-in from many different stakeholders. When the workshops focus on data and tangible measures of success, it is possible to use the workshops to neutralize biases and co-create shared outcomes.

## CONCLUSION

In general, this project represents a significant change for transportation professionals, and helps to build support for a shift to use performance measures that reflect livability considerations in transportation planning. This new focus helps to clarify the purpose of performance management: by focusing on user experiences and meaningful outcomes, agency actions can more than ever focus on the customer perspective of the transportation system. By evaluating the performance of the transportation system through how well it supports quality of life outcomes (livability performance measures), the value of transportation can become more transparent to the public and policy makers. Over time, this transparency and accountability can help shift political support in favor of transportation investments.

The workshops provided a rich opportunity to test the inclusion of performance-based planning and management as part of established planning processes for metropolitan areas of different sizes in the Southeast. Several factors were particularly encouraging to the workshop facilitators. The level of engagement maintained by workshop participants was extremely high. A majority of participants reported that the workshops facilitated meaningful conversations, and that they led to a greater understanding of how their agencies can use performance measures. Participants liked the level of engagement and interaction, the amount of work accomplished, and reported being more connected to stakeholders. Participants generally reported that they had a greater understanding of how their agencies could use performance measures to promote livability.

The post-workshop feedback has also been tremendously positive. In Broward, a participant representing a public health consultancy, working on the MPO's Complete Streets Initiative, contacted the workshop facilitator to vet a refined list of performance measures developed during the workshop. In Greenville, the transportation component of the comprehensive plan included performance measures that were developed during the workshop. In Huntsville and Asheville, the performance measures selected are being incorporated into the current planning process to program and prioritize investments. These are all tangible examples of how this project has delivered successful technology transfer.

The Community Vision Metrics tool provides an important starting point for practitioners to begin to investigate performance measures that may be used in the planning process. However, use of this tool is not a sufficient condition to successfully conduct performance-based planning. This tool is a critical piece in taking the first step toward evaluating performance measures, but does not address the data needs and implementation steps that will be required. An overwhelming majority of participants also reported being interested in best practices with regard to both performance management and livability.

As MAP-21 requires MPOs, in cooperation with states and public transportation operators, to develop long range transportation plans (LRTPs) and transportation improvement programs through a performance-driven, outcome-based approach there is a real need for guided facilitation for transportation agencies to transition to performance-based planning. As federal legislation is updated, more will be required to move in this direction.

Additionally, livability-oriented performance-based planning may be useful instruments to develop financial partnerships. Private entities are showing more interest in aligning with projects where livability drives profitability. Public-private partnerships have helped to overcome billions in budget shortfalls in light rail stations and other mass transit projects, where developers see opportunities in both operation and accompanying land development.<sup>2</sup> Livability considerations are gaining traction with cities and developers, who now consider the economics and social impacts of development (through health impact assessments) as a tool to attract private investment.<sup>3</sup> Livability-oriented performance measures can help to make the case for such investment.

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<sup>2</sup> Maloof, Al. 2014, P3 Projects Fill Gaps in Budget Holes, *Mass Transit Magazine*. <http://www.masstransitmag.com/article/11231825/p3-projects-overcome-budget-cuts>

<sup>3</sup> Gose, Joe, 2013, Construction That Focuses on the Health of Residents, *The New York Times*. <http://www.nytimes.com/2013/03/06/realestate/commercial/healthy-design-becoming-a-factor-in-construction.html?pagewanted=all>

## APPENDIX A: ATLANTA, GEORGIA WORKSHOP

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### Summary

This document summarizes the results of a technology exchange workshop held July 29, 2014 in Atlanta, GA. The workshop had 19 participants including two researchers from Georgia Tech (one facilitating and one observing), six staff members from the Atlanta Regional Commission (ARC), two staff from the Gainesville-Hall MPO (GHMPO), four members of consultant firms assisting GHMPO with its long range transportation plan, two staff from the Cartersville-Bartow MPO (CBMPO), and three representatives of the Georgia Department of Transportation (GDOT).

#### I. Purpose

The purpose of this workshop was to assist MPOs in the greater Atlanta, Georgia region (ARC, GHMPO, and the CBMPO) to envision a livability-oriented, performance-based approach to the next cycle of regional planning in each of their regions. The workshop was designed to introduce and leverage the Community Vision Metrics searchable database tool, and to provide an opportunity for peer-learning among the three MPOs to develop a greater shared understanding of livability-oriented performance measurement at a regional scale.

## II. Discussion Process

This was a four-hour workshop (10AM-2PM), including a working lunch. The prepared agenda (Appendix A-1) was adapted according to the participants' preferences during the workshop. The workshop flowed as follows:

- Welcome and Overview: Introduction to the STRIDE project
- “Setting the Stage” discussion: Participants introduced themselves and brainstormed “desires, successes, and challenges” that they had experienced with performance measurement and management. This conversation “set the stage” for the rest of the workshop by helping to establish a shared understanding of the goals of performance measurement and management.
- Introduction to the Community Vision Metrics Tool: A brief tutorial video was shown introducing the purpose of the FHWA tool.
- Agency Activities: Each agency took a turn identifying its current activities and next steps with respect to regional planning, as well as how performance measurement may play into the next steps.
- Shared Priorities: The group identified shared priorities (goal areas) that are relevant to all attending agencies.
- Metric Evaluation:
  - The group discussed how to define “SMART” performance measures, discussing and expanding upon the guiding questions provided on the provided metrics evaluation worksheet (Appendix A-2).
  - A brief tutorial video was shown to demonstrate how to use the Community Vision Metrics Tool.
  - Three smaller groups formed, each focusing on a particular goal area (among the identified “shared priorities”) for which to evaluate performance metrics according to the defined “SMART” criteria.
- Reflections: Participants identified their experiences working with the Community Vision Metrics tool, identified potential action items for using the tool in the future, and filled out the workshop evaluation form (Appendix A-3).

## III. Discussion Outcomes

### *Setting the Stage*

Table 4 shows results of the “setting the stage” discussion, at the beginning of the meeting, during which participants identified desires, successes, and challenges related to their experiences with transportation performance management. Three agencies (ARC, GDOT, and GHMPO) identified specific successes they have experienced with performance management. The lists of desires and challenges emerged through group discussion and brainstorming.

**Table 4: Group brainstorm of desires, successes, and challenges related to performance management**

Desires	Successes	Challenges
<ul style="list-style-type: none"> <li>➔ Metrics that are understandable to many audiences</li> <li>➔ Manageable data</li> <li>➔ Key performance indicators (KPIs) driven by plan goals</li> <li>➔ Decision making power</li> <li>➔ Honest and realistic targets</li> <li>➔ Qualitative and quantitative metrics</li> </ul>	<p>ARC:</p> <ul style="list-style-type: none"> <li>○ Concept 3 uses similar (although not always identical) metrics at the policy and project levels</li> <li>○ Envision6 scenario planning used</li> <li>○ NAVTEQ data provided performance measures</li> <li>○ Improved resolution and improved communication with stakeholders</li> <li>○ Inter-disciplinary and inter-agency collaboration on decision-making frameworks</li> <li>○ Broader recognition of performance measurement/management within the agency</li> </ul> <p>GDOT has had success reflecting user experience in Dashboard metrics, for example by focusing on average travel speeds in key corridors.</p> <p>GHMPO has made strides</p> <ul style="list-style-type: none"> <li>○ Working with the state on modeling</li> <li>○ Identifying how individual projects impact a network</li> </ul>	<ul style="list-style-type: none"> <li>➔ Connecting qualitative and quantitative performance</li> <li>➔ Identifying metrics that are both robust and simple</li> <li>➔ Finding metrics that link cause and effect (attributable to agency actions)</li> <li>➔ Competing priorities <ul style="list-style-type: none"> <li>○ Technical attributes</li> <li>○ Target audiences</li> </ul> </li> <li>➔ Resource scarcity <ul style="list-style-type: none"> <li>○ Human (technical skills) resources</li> <li>○ Technological resources</li> </ul> </li> <li>➔ Appropriate use of data (avoiding “DRIP” problem: data rich and information poor)</li> <li>➔ Diminishing returns (80/20 principle: a minority of actions account for the majority of outcomes)</li> <li>➔ Using proper tools at the correct scale and level of analysis, accounting for <ul style="list-style-type: none"> <li>○ Precision + accuracy</li> <li>○ Policy + detail</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Iterative improvement of tools leading to more informed discussion.</li> </ul>	<ul style="list-style-type: none"> <li>○ Value of individual projects + the value of an entire plan</li> </ul>
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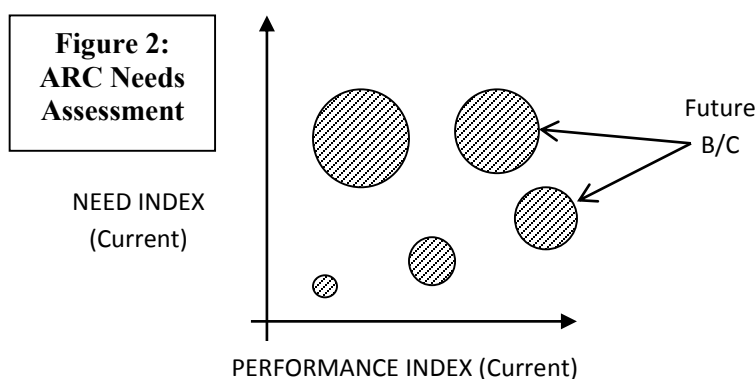
### *Agency Activities*

Each of the MPOs attending this workshop is at a different stage in its transportation planning process. During the workshop, each agency shared its current activities and next steps with respect to performance-based planning.

### *Atlanta Regional Commission*

ARC was the first publicly supported multi-county planning commission in the United States, created in 1947. The agency has been conducting long-range regional transportation planning as an MPO since the process was federally mandated. It has the most experience and the largest jurisdiction of the three MPOs in attendance with a population of approximately 4.8 million in the 2010 Census. The most recent update to its current long range plan, PLAN 2040, was approved in March 2014. The agency has since begun preparations for its 2016 regional plan update. During the Community Vision Metrics workshop, ARC staff mentioned three focused efforts for this next update process.

1. MetroQuest Public Outreach Survey:
  - a. ARC is currently testing aspirational goal statements through an online survey powered by MetroQuest, as well as five strategies per goal.
  - b. Their next step is to test scenarios and metrics through MetroQuest Phase II.
2. Updated functional classification for the roadway network, with metrics identified for different facility classes
3. Integrating regional plan with federal and state needs
  - a. Identifying assets in regional assessment
  - b. Transportation-oriented needs assessment (illustrated in Figure 2)
    - i. Regional level + link-level metrics
    - ii. Addressing current problems
    - iii. Focus on activity center accessibility



### *Gainesville-Hall MPO*

The Hall County Planning Department was designated to host Gainesville-Hall MPO in 2003. The MPO area is northeast and adjacent to the ARC and covers Hall County and a portion of western Jackson County. The Gainesville, Georgia metropolitan area that GHMPO plans for has a population of approximately 180,000 and a strong manufacturing presence. The GHMPO adopted its first Long Range Transportation Plan and Transportation Improvement Program in 2004. The third and most recent LRTP (2040 Metropolitan Transportation Plan) was adopted in 2011, and GHMPO has now entered its fourth cycle of planning. Activities identified for this process include:

1. A public survey, currently on the MPO website
2. Mobility-oriented goal statements for RTP
3. Defining data needs and sources
4. Integrating bicycle and pedestrian considerations into LRTP
5. Focus on implementation (incorporate feedback from listening to project sponsors/jurisdiction)
6. Prioritizing facilities/areas (centers + corridors)

### *Cartersville-Bartow MPO*

Hosted by Bartow County, Cartersville-Bartow MPO is newly formed for the Cartersville Urbanized Area as identified in the 2010 U.S. Census, with a population of approximately 90,000. The CB-MPO is located adjacent to the ARC to the northwest in the Appalachian foothills within the Atlanta commute shed. The agency is gearing up for its first LRTP. Staff identified two major activities:

1. Currently gathering socioeconomic data
2. Public outreach to commence spring-summer 2015



### Shared Priorities

Workshop participants brainstormed categories of performance measurement that were relevant to their work. Due to the diverse experience and focus areas of workshop participants, several different categories were identified:

- Mobility
- Congestion
- Reliability
- Accessibility to activity centers, job centers, and equitable target areas
- Economy
- Environmental Justice
- Vulnerable Communities
- Public Health

Through its conversation about shared focus areas, federal requirements, and specific challenges being tackled by each agency, the group agreed on three specific goal categories to focus their metric evaluation using the Community Vision Metrics Tool:

- Access for vulnerable communities (“ladders of opportunity”)
- Transportation for economic development (people and freight mobility)
- Public health and livability

### *Defining Evaluation Criteria*

Workshop participants reviewed the worksheet for evaluating performance measurement according to “SMART” criteria. They discussed each element of the SMART acronym and, through facilitated discussion, identified several guiding questions for each element beyond those already listed in the criteria evaluation worksheet.

Table 5 shows each element of the SMART criteria, guiding questions listed on the provided worksheet, and additional guiding questions identified during the workshop.



**Table 5: SMART Criteria with Guiding Questions from Workshop Participants**

Criteria and Questions from Worksheet	Additional Guiding Questions
<b>S (Specific)</b> <ul style="list-style-type: none"> <li>Is the desired outcome clear?</li> <li>Who is the audience?</li> </ul>	<ul style="list-style-type: none"> <li>To what extent does it influence the outcome?</li> <li>What is the scale? (regional, local / project, system)</li> <li>Is it composite (like an index) or single-dimensional? What are the dimensions? Is it easy to interpret?</li> <li>How well does this relate to user experience and/or system management?</li> </ul>
<b>M (Measurable)</b> <ul style="list-style-type: none"> <li>Is there a formula?</li> <li>What data or modeling is needed?</li> </ul>	<ul style="list-style-type: none"> <li>Is it cost effective to collect and process data?</li> <li>Is it explainable?</li> <li>Is it quantifiable (even if it is qualitative or subjective)?</li> </ul>
<b>A (Attainable/Achievable)</b> <ul style="list-style-type: none"> <li>How do we “move the needle”?</li> <li>What are the constraints?</li> </ul>	<ul style="list-style-type: none"> <li>Can you influence it, and on what scale?</li> <li>What is the target or aspiration?</li> <li>Through what strategies can we influence this?</li> </ul>
<b>R (Realistic/Relevant)</b> <ul style="list-style-type: none"> <li>Are we comfortable being held accountable for this?</li> </ul>	<ul style="list-style-type: none"> <li>Is this a context indicator or a performance measure?</li> <li>Does this need to be tracked with other measures in order to be relevant?</li> <li>Does it contribute to broader vision and goals?</li> <li>Can we isolate the agency’s influence?</li> </ul>
<b>T (Time Sensitive)</b> <ul style="list-style-type: none"> <li>Is this relevant to long- or short-range goals?</li> <li>How often should this be measured?</li> </ul>	<ul style="list-style-type: none"> <li>How frequent is decision making?</li> <li>How frequent is enough to impact decisions?</li> </ul>

### *Evaluating Metrics - Reflections*

Participants worked in three break-out groups to identify and evaluate performance measures using the Community Vision Metrics searchable database tool, along with the SMART criteria worksheet (Appendix A-2). Following this exercise, participants reconvened as a large group, and each break-out group shared observations about performance measurement in its focus area, as well as reflections about using the tool.

### **Transportation for Economic Development**

This category is relevant to region-wide plan updates. The break-out group observed that it is important to carefully differentiate between context indicators and performance measures, what can be influenced by the agency and what is relevant to the system user. It is also important to be specific about scale and use, asking whether a particular measure is more useful for a corridor-level or region-wide analysis; whether it can help evaluate an individual project or a broader scenario.

Priority metrics identified by this group for follow-up included:

- User experience: average delay or cost of delay per capita
- Employer access: percent of manufacturing employment within a certain distance (x) of multilane highways

### **Accessibility and Vulnerable Communities**

This break-out group observed that different performance targets would be appropriate for different applications of the same measure. For example, priority metrics identified by this group for follow-up included:

- Average travel time to jobs for disadvantaged populations via transit
- Pedestrian safety and access

Each of these metrics should be evaluated with every long-range transportation plan update, and context-specific needs analyses/gap assessments should be conducted to consider different sub-areas of the region, as well as different lifestyle variations such as non-traditional work hours.

### **Public Health**

This break-out group observed that an MPO may not have direct influence on public health outcomes (such as obesity), but it can influence active travel by providing funding for supportive infrastructure. Therefore, priority metrics identified by this group for follow-up included:

- Miles of bicycle lanes
- Emissions
- Percent transport in active modes

Data challenges were identified for miles of bicycle lanes and percent active travel.

#### *Using the Community Vision Metrics Tool*

Collectively, workshop participants identified the following observations about using the tool:

- It is helpful to use the search tool iteratively, experimenting with checking and un-checking search categories in order to find performance measures.
- The SMART criteria are useful to consider when using the searchable database tool because the tool does not discuss data sources, modeling capacity, or strategies for improvement. In particular, agency users should make sure to identify:
  - Data and modeling capacity, considering budget and the frequency that data can be updated;
  - Strategies for improvement related to the agency's particular jurisdiction or scope of influence, when selecting performance measures.

#### **IV. Feedback**

Fourteen people, thirteen workshop participants and the Georgia Tech observer, completed the workshop evaluation form (Appendix A-3). Through the first four “level of agreement” evaluation questions, the majority of workshop participants indicated that the workshop increased their understanding of performance measurement and its application, and increased their ability to promote livability. Fewer than half of the participants were certain that participants built a greater regional consensus around performance measurement, but an overwhelming majority did find that the workshop facilitated a valuable conversation. Table 6 (see following page) summarizes this feedback in more detail.

**Table 6: Summary of Workshop Participant Evaluation Responses**

<b><u>Evaluation Statement</u></b>	<b><u>Agreement</u> <b>(4-5, Yes)</b></b>	<b><u>Neutral/Unsure</u> <b>(3)</b></b>	<b><u>Disagreement</u> <b>(1-2, No)</b></b>
1. I have a greater understanding (clearer picture) of how my agency can use performance measures in our next steps for regional planning	62%	23%	15%
2. I have a greater understanding of how my agency can use performance measures to promote livability.	54%	31%	15%
3. I believe the workshop participants have built greater regional consensus about performance measurement.	46%	38%	15%
4. I believe this was a valuable conversation.	77%	8%	15%

In addition to this feedback, participants provided the following feedback through the remaining open-ended questions:

5. Do you have one or more action items to follow up on after the workshop?
  - 2 “Yes” answers (15%). ARC will be following up with developing metrics for its needs assessment.
  - 11 “No” or blank (85%) answers; two provided additional details:
    - ➔ “No, but it did reaffirm the next steps I was already about to undergo.”
    - ➔ [ARC respondent] “We already use these measures (or measures in general). I’m not sure how much info was brought to the table.”
6. What was the most valuable aspect of the workshop?
  - Discussing a framework within which to select performance measures for different contexts (*5 similar responses*)
  - Sharing ideas among larger and smaller MPOs hearing their different experiences with handling similar issues (*4 similar responses*)
  - Getting together with regional partners; participation and exchange of ideas among different agencies; discussion in large and small groups (*4 similar responses*)
7. What could have been done to improve the workshop?
  - Broader discussion on best practices across MPOs

- Developing an actionable list or plan
- Written summary of the commentary
- More discussion on relevancy of indicators for different contexts
- More discussion about coordination between MPOs at different stages of development

8. Additional comments or suggestions:

- This was a good discussion and very helpful for the smaller MPOs with less experience, but potentially not as helpful for the larger MPO. *(3 related responses)*
- Good job to the facilitator for managing an effective conversational pace *(3 similar responses)*
- Very interesting and enjoyable discussion.
- Suggest holding this workshop after FHWA completes MAP-21 rulemaking, in order to help MPOs focus on meeting those requirements.

## V. Observations and Recommendations for Follow-up

Based on the discussion outcomes and participant feedback, it is clear that this workshop was a valuable first step in what needs to be a longer-term process of discussion among agencies in the Metro Atlanta area. Most common suggestions for improving the workshop outcomes include “more discussion.” Therefore, it is recommended that the same participant agencies reconvene multiple times within the next two years, as each of them progresses its own planning timelines, and as the Federal government continues to produce rulemaking related to MAP-21. It is suggested that these subsequent meetings be again carefully planned and conducted with the help of a facilitator, and organized around the following objectives and strategies:

- Use the Community Vision Metrics tool to further explore performance measures for multiple levels of analysis, e.g. project evaluation, corridor-level, and plan evaluation.
- Develop greater consensus among agency partners about shared livability goals in Metro Atlanta and adjacent areas, identifying:
  - Actions that can be taken by each MPO that can promote these goals
  - Performance metrics that can be used by all three participant MPOs, and potentially by the DOT for other parts of the state
  - Data sharing and technical partnership processes that can support performance measurement and management processes
- Develop coordinated and cooperative action plans to address MAP-21 rules in Metro Atlanta and adjacent MPO jurisdictions.

In addition to joint meetings among multiple agencies, it is recommended that each participant agency continue to use the Community Vision Metrics tool to support internal conversations about performance measurement and management. As participants observed during the workshop, the tool is more helpful when used iteratively, and in conjunction with a sound understanding of SMART criteria for performance measurement.

## Appendix A-1: Agenda

### STRIDE Community Vision Metrics Technology Exchange Project Atlanta & Neighboring MPOs Workshop Tuesday July 29, 2014 10AM-2PM

#### Overview

The purpose of this workshop is to assist the Atlanta Regional Commission, Gainesville Hall MPO, and the Cartersville Bartow MPO to envision a livability-oriented, performance-based approach to the next cycle of regional planning in each of their regions. The workshop will leverage the Community Vision Metrics searchable database tool

(<http://www.planningcommunities.com/communityvisionmetrics>) and staff experience from workshop participants in order to:

- Develop greater shared understanding (multi-agency consensus) around the performance-based approach and important livability outcomes, in alignment with MAP-21 requirements
- Identify potential performance measures for further study at each MPO, and potentially some shared measures across MPO boundaries

#### Agenda

10:00 AM	<b>Welcome and Overview</b> <b>Set the Stage with Agency Experience</b> <ul style="list-style-type: none"> <li>▪ How have performance measures been used so far?</li> <li>▪ What are the current benefits and challenges with performance measurement?</li> </ul>
11:00 AM	<b>Intro to using Community Vision Metrics Tool</b> <b>Identify Priorities in Agency Working Groups</b> (small group discussions) <ul style="list-style-type: none"> <li>▪ What is our agency or group's next step with respect to regional planning?</li> <li>▪ What are the overarching goals of the next step?</li> <li>▪ What types (categories) of performance measures are relevant to these goals?</li> </ul>
12:00 PM	<b>Share Agency Priorities</b> (large group) <b>Working Lunch</b> <b>Large Group Planning Discussion</b> <ul style="list-style-type: none"> <li>▪ What are some cross-agency priorities?</li> <li>▪ How do we define "SMART" criteria for selecting performance measures?</li> </ul>
12:45 PM	<b>Identify and Evaluate potential measures in goal-focused groups</b> <ul style="list-style-type: none"> <li>▪ Identify measures with Vision Metrics Database</li> <li>▪ Evaluate measures according to "SMART" criteria (<i>use worksheet</i>)</li> <li>▪ Identify most promising performance measures for use across MPO regions</li> </ul>

1:30 PM

**Closing Large-group Discussion**

**Closing Personal Reflections**

- What action items can I follow-up with to help integrate new performance measures into the next for my agency or group?
- Complete workshop evaluation





## Appendix A-3: Workshop Evaluation Form

### STRIDE Community Vision Metrics Technology Exchange Project

#### Workshop Evaluation

*(Please indicate your level of agreement.)*

Strongly  
Disagree

Not  
Sure

Strongly  
Agree

**1. I have a greater understanding (clearer picture) of how my organization or group can use performance measures in our next steps.**

1      2      3      4      5

**2. I have a greater understanding of how my organization or group can use performance measures to promote livability.**

1      2      3      4      5

**3. I believe the workshop participants have built greater regional consensus about performance measurement.**

1      2      3      4      5

**4. I believe this was a valuable conversation.**

1      2      3      4      5

**5. Do you have one or more action items to follow up on after the workshop?**    YES  
NO

If YES, what will this entail?

**6. What was the most valuable aspect of the workshop?**

**7. What could have been done to improve the workshop?**

**8. Additional comments or suggestions**

## APPENDIX B: BROWARD COUNTY, FLORIDA WORKSHOP

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### Summary

This document summarizes the results of a technology exchange workshop held August 14, 2014 in Broward County, FL. The workshop had 24 participants including one facilitator from Georgia Tech, nine staff members from the Broward Metropolitan Planning Organization (BMPO), three staff from the Florida Department of Transportation (FDOT), two from Broward County Transit, two from Broward County's Highway Construction and Engineering Division, two from the South Florida Regional Transportation Authority (SFRTA), two from the Urban Health Partnership (consultants), one from the Broward Department of Health, one from Broward County Planning and Redevelopment, and one private citizen.

### I. Purpose

The purpose of this workshop was to assist the Broward MPO to identify valuable performance measures that can connect/translate the goals and objectives outlined in its long range transportation plan, Commitment 2040<sup>4</sup>, to other planning efforts. The workshop leveraged staff experience with developing Commitment 2040, corridor studies and projects, a complete streets policy, and the freight planning effort, along with the FHWA's Community Vision Metrics searchable database tool<sup>5</sup> in order to:

- Develop greater shared understanding around an integrated, performance-based approach to integrated, livability-oriented transportation planning in Broward County in alignment with federal (MAP-21), state, and regional priorities; and

<sup>4</sup> Main Commitment 2040 Website: <http://www.browardmpo.org/commitment-2040>  
Commitment 2040 Goals, Objectives & Measures:

[http://www.browardmpo.org/userfiles/files/GOMs%20Report\\_022014.pdf](http://www.browardmpo.org/userfiles/files/GOMs%20Report_022014.pdf)

<sup>5</sup> Temporarily hosted by Planning Communities <http://www.planningcommunities.com/communityvisionmetrics>

- Identify potential performance measures to help translate Commitment 2040 goals and objectives into meaningful outcomes at other levels of planning.

## II. Site and Planning Context

Broward MPO (BCMPO) is located on the east coast of southern Florida in the Fort Lauderdale metropolitan area. According to the 2010 Census, the area was home to approximately 1.75 million people. The region has continued to grow in recent years and has a strong tourism industry supported by the Fort Lauderdale-Hollywood International Airport and Port Everglades.<sup>6</sup>

The most recent long range plan for the 2035 time horizon, Transformation, was last amended in early 2013.<sup>7</sup> The MPO is currently in the planning process for Commitment 2040. A draft is available now for public comment. In the development of the plan, public outreach activities included community meetings and public workshops. Additionally, there was a heavy digital presence (webpages and online surveys), a television campaign and coordination with local municipalities and their resources.

Broward MPO conducts Livability Planning Studies that align with guiding principles of the federal Partnership for Sustainable Communities to address elements of the 2035 LRTP such as transit infrastructure, bicycle and pedestrian facilities, designation of appropriate land uses and guidelines for appropriate redevelopment and retrofitting. Additionally, they have the first Congestion management Process/Livability Planning Project in the Hollywood Pines Corridor Project.<sup>8</sup>

## III. Discussion Process

This was a six-hour workshop (9:30 AM-3:45PM), including a break for lunch. The prepared agenda (Appendix B-1) was adapted according to the participants' preferences during the workshop. The workshop flowed as follows:

1. Welcome and Overview: Introduction to the STRIDE project and the goals for the workshop
2. Setting the Stage/Strategic Priorities: Participants brainstormed their attitudes about performance measurement and management, which were connected to the established performance management cycle through facilitated discussion. They also introduced themselves and expressed achievements and challenges in performance measurement and management that led to an understanding that there are shared priorities among all of the agency stakeholders. The facilitator made use of visual aids including a projected slide set and large easels with sticky paper for note taking.
3. How to Select Performance Measures: Using the SMART criteria worksheet (Appendix B-2) and additional brainstormed questions, the participants examined the current performance measures that are associated with the three strategic goals in the LRTP identifying limitations.

<sup>6</sup> Fort Lauderdale Chamber of Commerce Website:

<http://www.ftlchamber.com/index.php?src=gendocs&ref=Business%20%26%20Industry&category=Fort%20Lauderdale&wpos=3000,3000,15467>

<sup>7</sup> Long Range Transportation Plan: <http://www.browardmpo.org/planning/long-range-transportation-plan>

<sup>8</sup> Livability Planning: <http://www.browardmpo.org/planning/livability-planning>

4. Performance Measures for Different Planning Efforts: Participants watched a brief tutorial for the Community Vision Metrics tool and used the tool to identify performance measures related to the Complete Streets initiative and Broward MPO's next LRTP/TIP. This was done in two breakout groups.
5. Closing Discussion: Participants identified next steps based on their break-out group discussions and provided feedback about using the tool. Participants who were able to stay until the end of the workshop also completed workshop evaluation forms (Appendix B-3).

#### IV. Discussion Outcomes

##### *Setting the Stage/Strategic Priorities*

The group began by brainstorming attributes of performance measurement/management. The responses were written on a large notepad by the facilitator:

“Adaptability, effectiveness, wise investment, accountability, measurable, doable/achievable, simple/focused, equitable, data driven, tracking tools, monitoring/reporting, efficient, integration, understandable, trends/patterns, rational, transparent, transferable, translatable, sustainable, holistic, temporal, goal-oriented, comparable (benchmarking; target setting), where we want to get to.”

Next, the facilitator reviewed the performance management cycle depicted in Figure 3. Each piece of the cycle was connected to attributes that had been brainstormed by the group – many participants expressed appreciation of this graphic.



**Figure 3: Performance Management Cycle as shown on slide 4**

Participants then introduced themselves and their organizations, and mentioned what they are working on that could be enhanced through this workshop. Each participant further described perceived achievements and challenges associated with transportation performance management. As there were a large number of participants, it took considerable time to complete introductions, and several introductions were followed by group discussion. Conversation culminated in an understanding that there are shared priorities among all of the agency stakeholders represented. This is reflected in Table 7.

**Table 7: Achievements and Challenges in Performance Management for each Agency Stakeholder**

Agency	“What we’re doing”	“Performance management achievement”	“Performance management challenges”
Broward MPO	Mobility Bike/Ped	Tracking Facilities Usage	Long Planning Process a. Public Understanding b. Long time to results
	Evaluating Mobility Investments	Developed Metrics	c. Finding data at an appropriate scale d. Measuring Health e. Long time to “move the needle”
	Congestion Management	Integrating FDOT’s Multimodal Level of Service (MMLOS)	Translatable Performance Standards Across Mods
	Complete Streets Network Plan	Vision/Momentum/ Smart Growth	Developing Consensus and effectiveness  • Community Engagement at the Network Level, from the Grass Roots • Intergovernmental Coordination
	Corridor Studies	University Drive Study: ranking using performance metrics	• Measuring TIP effectiveness • Implementation of recommended projects
	LRTP/Regional Freight Plan	Commitment 2040 • Setting Plan Goals	Having the right suite of “clinical” performance measures; dealing with

		<ul style="list-style-type: none"> <li>Board and Public Workshop Guided Project Selection</li> </ul>	conflicting/ironic measures
Broward Department of Health	Complete Streets Working Group/ Smart Growth Partnership	<ul style="list-style-type: none"> <li>Setting Goals</li> </ul>	Measuring Prevention (Public Health, Safety, Disease) <ul style="list-style-type: none"> <li>Defensible Attribution (proving to decision makers with \$\$)</li> <li>Context Sensitivity</li> </ul>
Urban Health Partnership	Complete Streets Working Group	<ul style="list-style-type: none"> <li>Conceptually Connecting Health to Planning/ Engineering (developing research and tools)</li> </ul>	<ul style="list-style-type: none"> <li>Changing Behaviors/ shifting cultural norms</li> <li>Translating ideas into action with supportive data (ideas → data → action)</li> </ul>
Florida DOT	<ul style="list-style-type: none"> <li>Transit Project Development/ NEPA</li> <li>Corridor Studies</li> <li>Model Development</li> </ul>	<ul style="list-style-type: none"> <li>Improving LOS</li> <li>Scheduling/ Programming</li> </ul>	<ul style="list-style-type: none"> <li>Dollars for Implementation</li> <li>Moving from sprawl to TDO through changing land use and O/D patterns</li> <li>Climate Change</li> <li>Conflicting Priorities/ Context Sensitivity</li> </ul>

	<ul style="list-style-type: none"> <li>• Southwest Florida Growth Management</li> <li>• State review of local plans</li> <li>• Technical Assistance</li> </ul>	<ul style="list-style-type: none"> <li>• Annual Performance Report</li> <li>• Effective collaboration (under MAP-21)</li> <li>• Developing a “Performance Measurement Ethic”</li> </ul>	<p>Lacking:</p> <ul style="list-style-type: none"> <li>• Measures and Targets</li> <li>• Specificity</li> <li>• Championship</li> <li>• Use in analysis</li> <li>• Consequences for non-performance</li> <li>• System-wide, long-range measurement</li> <li>• Cross-cutting measures (e.g. multiple modes)</li> </ul>
SFRTA/Tri-rail	<ul style="list-style-type: none"> <li>• Transit Provision</li> <li>• Addressing Climate Change</li> <li>• Enhance mobility/connectivity</li> </ul>	<ul style="list-style-type: none"> <li>• AQ Monitoring (criteria pollutants)</li> <li>• Bike/Ped Study</li> <li>• Identifying customer needs (using subjective metrics)</li> <li>• New Projects</li> <li>• Partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Integrating climate change criteria</li> <li>• Using existing models for unconventional applications</li> <li>• Identifying useful modeling Outputs</li> <li>• Transit funding</li> </ul>
FDOT/Urban Health Partnership/SFRTA		<ul style="list-style-type: none"> <li>• Existing Public Health Research</li> <li>• Public Health Partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Changing State Processes</li> </ul>
Broward County Transit (BCT)		<ul style="list-style-type: none"> <li>• Monthly, Quarterly, Annual tracking</li> <li>• 47 measures for transit planning</li> </ul>	<ul style="list-style-type: none"> <li>• Effectiveness (customer focus)</li> <li>• Data availability/integrity</li> <li>• Unrealistic benchmarking/targets</li> <li>• Focus/follow-through</li> </ul>



Broward County	<ul style="list-style-type: none"> <li>• Complete Streets Implementation Strategy</li> <li>• Comprehensive Planning</li> </ul>	<ul style="list-style-type: none"> <li>• Pilot Implementation Strategy: Electric Vehicles</li> <li>• “Sitting here!” (in the workshop)</li> <li>• Declining crash rates and fatalities</li> <li>• Increased bike facilities and connectivity</li> <li>• Bicycle level of service</li> </ul>	<ul style="list-style-type: none"> <li>• Aligning with multiple stakeholders (bike/ped is local scale)</li> </ul>
	<ul style="list-style-type: none"> <li>• Traffic Control Asset Management and Operations</li> </ul>	<ul style="list-style-type: none"> <li>• Collecting and responding to community feedback</li> <li>• Developing and using internal metrics for signal timing improvements <ul style="list-style-type: none"> <li>○ Travel time</li> <li>○ Stops</li> <li>○ Delay</li> </ul> </li> <li>• Complete Streets Efforts</li> <li>• Safe Streets Summit (messaging to the public)</li> </ul>	<ul style="list-style-type: none"> <li>• “Schizophrenic environment” of conflicting goals, needs</li> <li>• Cohesion between embraced goals and used measures</li> <li>• Cross-modal equity and planning</li> <li>• Transition period between leadership</li> <li>• Public education</li> <li>• Aspirational and achievable metrics</li> <li>• Incorporating all modes into existing metrics</li> <li>• Cost of data (especially for subjective metrics)</li> <li>• Good press</li> </ul>

	<ul style="list-style-type: none"> <li>• Mobility Hubs</li> </ul>	<ul style="list-style-type: none"> <li>• I-95 Study</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility to use qualitative and quantitative metrics</li> <li>• Communication to multiple audiences (with I-95 study)/ choosing the right reporting methods</li> </ul>
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After a break for lunch, the workshop continued with a facilitated discussion about aligning performance measures with Federal, Statewide, and Regional priorities. Federal rulemaking will require statewide and regional reporting on certain metrics associated with each of the goals MAP-21 goals (Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement & Economic Vitality, Environmental Sustainability, and Reduced Project Delivery Delays); however, developing regionally/locally relevant metrics should not necessarily wait for the federally required metrics. Ultimately every region/locality will have to meet federal requirements and support local/regional priorities.

Considering this is a workshop about livability-oriented metrics, and Broward-area agencies are focusing on promoting livability, the group brainstormed how each of the MAP-21 goals are relevant to livability. The group reviewed how livability is also an explicit priority of USDOT as part of the federal USDOT/EPA/HUD Partnership for Sustainable Communities. The facilitator introduced a list of the Partnership’s six principles of livability. The group discussed how the MAP-21 goals and livability principles are related, and how transportation-related agencies may support livability by influencing both supply and demand elements of the transportation system. During the discussion, the group identified that supply-oriented performance measures (for example, infrastructure capacity) are easier to track than demand-oriented performance measures, and they identified a need for market research to determine the most appropriate demand-oriented/customer-focused performance measures. It was observed that the public health professionals in the room had much more experience with public outreach, and this experience could be leveraged in partnerships with transportation agencies.

### *How to Select Performance Measures*

First, workshop participants reviewed the worksheet for evaluating performance measurement according to “SMART” criteria (Appendix B-2). They discussed each element of the SMART acronym and, through facilitated discussion, identified several guiding questions for each element in addition to those already listed in the criteria evaluation worksheet.

Table 8 shows each element of the SMART criteria, guiding questions listed on the provided worksheet, and additional guiding questions identified during the workshop.

**Table 8: SMART Criteria with Guiding Questions from Workshop Participants**

Criteria and Questions from Worksheet	Additional Guiding Questions
<b>S (Specific)</b> <ul style="list-style-type: none"> <li>Is the desired outcome clear?</li> <li>Who is the intended audience?</li> <li>Is there a formula?</li> </ul>	<ul style="list-style-type: none"> <li>To what extent does it influence the outcome?</li> <li>What is the appropriate geographic scope/scale?</li> </ul>
<b>M (Measurable)</b> <ul style="list-style-type: none"> <li>What data or modeling capacity are needed?</li> <li>Who would be responsible for measurement?</li> </ul>	<ul style="list-style-type: none"> <li>What are the parameters involved in collecting data? Can data be collected with an appropriate... cost, technology, format, accuracy and consistency, and representative sample?</li> </ul>
<b>A (Attainable/Achievable)</b> <ul style="list-style-type: none"> <li>How do we “move the needle”?</li> <li>What are the constraints?</li> <li>Who would be responsible for achievement?</li> </ul>	<ul style="list-style-type: none"> <li>What agency actions can influence the desired outcome?</li> <li>What are confounding factors?</li> <li>How quickly can we move the needle?</li> <li>Do the metrics align funding/actions with cross-cutting goals?</li> </ul>
<b>R (Realistic/Relevant)</b> <ul style="list-style-type: none"> <li>Can this help translate our goals into actions?</li> <li>Are we comfortable being held accountable for this?</li> </ul>	<ul style="list-style-type: none"> <li>What kind of targets should we use (are aspirational targets ok?)</li> <li>How is funding tied to achievement?</li> <li>What is the back-up plan?</li> <li>What is the research plan?</li> <li>Is there stakeholder buy-in?</li> </ul>
<b>T (Time Sensitive)</b> <ul style="list-style-type: none"> <li>Does this better address long- or short-range goals?</li> <li>How often should this be measured?</li> </ul>	<ul style="list-style-type: none"> <li>How frequent is enough to impact decisions?</li> <li>Can we report on this incrementally, using both short-term and long term targets? What is the expectation for change?</li> <li>What is our re-evaluation strategy? How often should we re-evaluate measures/targets?</li> </ul>

After developing the guiding questions, participants worked in three break-out groups that aligned with Commitment 2040's three strategic goals ("Move People, Create Jobs, Strengthen Communities") to evaluate the performance measures currently listed in the LRTP using the SMART criteria worksheet. Following this exercise, participants reconvened as a large group, and each break-out group shared observations about the currently defined LRTP metrics.

### **Move People**

- "Specific" is a problem: simplicity, explainability is important
- Championship depends on inter-agency partnership
- Target setting will lead to accountability
- Network connectivity and scale challenges

### **Create Jobs**

- The metrics are outdated proxies, which could be improved with new technology
- Relevance to actions and goals is a challenge

### **Strengthen Communities**

- Geographic scale is important for specificity and equity
- The market has to go where it can

### *Performance Measures for Different Planning Efforts*

A brief demonstration was displayed by following the link to Community Vision Metrics Tool. Participants then worked in two break-out groups using the SMART criteria worksheet and the Community Vision Metrics Tool to identify new performance measures beyond those currently in Commitment 2040, for the Broward MPO's Complete Streets Initiative and its next LRTP Update. Each group identified next steps for its initiatives, and provided feedback about using the tool when the larger group reconvened.

### **Complete Streets Initiative Outcomes**

The Complete Streets Initiative has identified performance measures; the break-out group decided to evaluate those existing measures with the SMART criteria, identify gaps in the existing suite of metrics, and use the Community Vision Metrics tool to start filling those gaps, at both the county/program level and the corridor level.

At the program level, the break-out group decided to rework two existing measures having to do with property vacancies and sales tax revenues. They also decided to develop modeling capacity (in the BMPO SERPM7 model) for a new metric identified from the Tool: mobility by income group.

At the corridor level, they used the tool to identify three new metrics for further study: monetized crash costs, the number of fatal and incapacitating injury crashes, and the average commute travel time.

BMPO's Complete Street's Technical Advisory Committee (TAC) Subcommittee was identified as the champion for these efforts. This subcommittee coordinates with the Broward Department of Health with the assistance of the Urban Health Partnership consultants.

### *LRTP/TIP*

The LRTP/TIP Development breakout group decided to consider a sample project type and use the Tool to identify performance metrics that would be helpful in evaluating its merit. They considered a Park 'n Ride project and identified three potential metrics: percentage of the population leaving the area for work, percentage of the population within x miles of the site, and average travel time to major employment centers.

Through discussion, the breakout group also identified that “intangibles” such as quality of life and stress level should be captured in livability-oriented performance measures.

Following the workshop, this working group wants to identify additional uses for the Tool in continuing conversations among BMPO, SFRTA, BCT, and FDOT. Within BMPO, Paul Calvaresi was identified as a champion to identify uses related to the SERPM7 model.

### **Insights about the Tool**

Participants shared the following comments:

- Beneficial to iterate through several searches, changing the filters
- The TAZ filter seems to limit things too much
- This is a good starting point for discussion, it is important to have a very clear goal in mind
- The tool is missing intangibles; it is important to be able to leverage real-life experience

### **V. Feedback**

Nine people completed the workshop evaluation form. Through the first four “level of agreement” evaluation questions, almost all of the respondents indicated that the workshop increased their understanding of performance measurement and its application and built a greater regional consensus around performance measurement. All respondents felt the workshop increased their ability to promote livability through performance measurement and an overwhelming majority found the workshop facilitated a valuable conversation. Table 9 (on the following page) summarizes this feedback in more detail.

**Table 9: Summary of Workshop Participant Evaluation Responses**

<b><u>Evaluation Statement</u></b>	<b><u>Agreement</u> <b>(4-5, Yes)</b></b>	<b><u>Neutral/Unsure</u> <b>(3)</b></b>	<b><u>Disagreement</u> <b>(1-2, No)</b></b>
9. I have a greater understanding (clearer picture) of how my agency can use performance measures in our next steps for regional planning	89%	11%	0%
10. I have a greater understanding of how my agency can use performance measures to promote livability.	100%	0%	0%
11. I believe the workshop participants have built greater regional consensus about performance measurement.	89%	11%	0%
12. I believe this was a valuable conversation.	89%	11%	0%

In addition to this feedback, participants provided the following feedback through the remaining open-ended questions:

13. Do you have one or more action items to follow up on after the workshop?

- 7 “Yes” answers (78%). Follow up actions included: Improving objectives and making them align w/ SMART objectives; Following up with the Complete Streets Evaluation Sub-Committee on identified metrics; Taking back some additional Complete Street performance metrics to the TAC; Following up on recommendations from break-outs (TAC); Developing performance indicators for agency plans; Revising/updating metrics in Broward MPO 2040 LRTP Draft; Thinking about how non-MPO agency can use tool.
- 2 “No” or blank (22%) answers.

14. What was the most valuable aspect of the workshop?

- Facilitated group communication and discussion on performance measures with multiple regional stakeholders (*5 similar responses*)
- Developing SMART performance metrics (*4 similar responses*)
- The internet performance tool

15. What could have been done to improve the workshop?

- More time (*2 similar responses*)
- Actually setting goals/measures for MAP-21 compliance

- Streamlining to shorten introduction (great conversation during introduction however)
- Examples of existing performance measures and associated SMART principles would have been helpful in assessing existing metrics
- Continue with practical application done through breakout groups

16. Additional comments or suggestions:

- “Difficult topic but well done, informative workshop” (*3 similar responses*)
- “Very useful program. It will shape further MPO activities”

## VI. Observations and Recommendations for Follow-up

Based on the outcomes and participant feedback, the workshop provided a useful forum for the various transportation agencies around Broward County to discuss important themes of performance measurement and management. It created a valued space for dialogue between regional stakeholders and provided a starting point for developing performance measures that can be incorporated in a performance management framework, especially for the topic of livability.

Several comments mentioned that the workshop could be improved by increasing time for practical application including developing goals. It is recommended that agencies continue to use the Community Vision Metrics tool and the SMART criteria worksheet to continue to refine their performance measures.

There were many actions identified for follow up. It may be helpful to reconvene this group semi-annually or annually to assess regional progress. Future meetings can also continue the discussion and further regional communication.



## Appendix B-1: Agenda

### STRIDE Community Vision Metrics Technology Exchange Project Broward MPO Performance-Based Planning Workshop Thursday August 14, 2014 9:30 AM - 4:30 PM

#### Overview Statement

The purpose of this workshop is to assist the Broward MPO to identify valuable performance measures that can connect and translate the goals and objectives outlined in Commitment 2040<sup>9</sup> to other planning efforts. The workshop will leverage staff experience with developing Commitment 2040, corridor studies and projects, complete streets, and the freight planning effort, along with the FHWA's Community Vision Metrics searchable database tool<sup>10</sup> in order to:

- Develop greater shared understanding around an integrated, performance-based approach to livability-oriented transportation planning in Broward County, aligned with federal (MAP-21)<sup>11</sup>, state, and regional priorities
- Identify potential performance measures to help translate Commitment 2040 goals and objectives into meaningful outcomes at other levels of planning

#### Agenda

<b>9:30 AM</b>	<b>Welcome and Overview</b>
	<b>Set the Stage with Agency Experience</b>
	→ How have performance measures already been used at Broward MPO?
	→ What are the current challenges and needs?
<b>11:00 AM</b>	<b>Know Our Strategic Priorities</b>
	→ How do federal, state, and regional goals relate to my planning effort?
	→ How do these goals/objectives relate to different local jurisdictions?
<b>12:00 PM</b>	<b>LUNCH</b>
<b>1:00 PM</b>	<b>How to Select Performance Measures</b>
	→ What makes a “SMART” performance measure?
	→ How effective are the existing measures defined in Commitment 2040?
<b>2:30 PM</b>	<b>Performance Measures for Different Planning Efforts</b>
	→ What new performance measures could translate regional goals into effective outcomes for my planning effort? ( <i>See Community Vision Metrics<sup>2</sup> and SMART worksheet</i> )
	→ What resources are needed to effectively use these measures?
	→ Who will be responsible for “championing” these measures?
<b>3:45 PM</b>	<b>Closing Discussion</b>

## Appendix B-2: SMART Metrics Evaluation Worksheet

<sup>9</sup> Main Commitment 2040 Website: <http://www.browardmpo.org/commitment-2040>

Commitment 2040 Goals, Objectives & Measures: [http://www.browardmpo.org/userfiles/files/GOMs%20Report\\_022014.pdf](http://www.browardmpo.org/userfiles/files/GOMs%20Report_022014.pdf)

<sup>10</sup> Community Vision Metrics searchable database tool, temporarily hosted by Planning Communities

<http://www.planningcommunities.com/communityvisionmetrics>

<sup>11</sup> FHWA's MAP-21 fact sheet: <https://www.fhwa.dot.gov/map21/factsheets/pm.cfm>

August 2014

August 2014

Georgia Institute of Technology | Infrastructure Research Group

## Appendix B-3: Workshop Evaluation Form

### STRIDE Community Vision Metrics Technology Exchange Project

#### Workshop Evaluation

*(Please indicate your level of agreement.)*

Strongly  
Disagree

Not  
Sure

Strongly  
Agree

**1. I have a greater understanding (clearer picture) of how my organization or group can use performance measures in our next steps.**

1      2      3      4      5

**2. I have a greater understanding of how my organization or group can use performance measures to promote livability.**

1      2      3      4      5

**3. I believe the workshop participants have built greater regional consensus about performance measurement.**

1      2      3      4      5

**4. I believe this was a valuable conversation.**

1      2      3      4      5

**5. Do you have one or more action items to follow up on after the workshop?** YES  
NO

If YES, what will this entail?

**6. What was the most valuable aspect of the workshop?**

**7. What could have been done to improve the workshop?**

**8. Additional comments or suggestions**

## APPENDIX C: GREENVILLE, MISSISSIPPI WORKSHOP

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### Summary

On July 22, 2014, a team from North Carolina State University (NCSU) travelled to Greenville, Mississippi to assist Orion Planning Group in developing a comprehensive plan for the city. The NCSU team sought to integrate performance measures into the planning process through a structured community engagement process. This report summarizes the outreach approach, discusses outcomes, and reflects on lessons learned. This report is organized as follows: Section 1 describes the community and Section 2 outlines the planning process; Section 3 provides an overview of the one-day workshop and Section 4 describes the workshop in greater detail; Section

5 presents workshop outcomes and Section 6 analyses the effectiveness of the workshop and synthesizes findings into five lessons learned and discusses implications for future outreach efforts.

## Section 1: Site Context

Greenville is a small community nestled along the Mississippi River in the heart of the delta. While this city has a rich cultural heritage, dramatic population declines have occurred over the last 30 years. In 1990, the population of Greenville was 45,226.<sup>12</sup> Today, the population has shrunk to 34,259—a 24% decline.<sup>13</sup> In its wake, this precipitous decline has left more than a quarter of the city vacant with many vacant parcels clustered around downtown. Along with population losses, the community has suffered from an eroding economic base as historical important industries in the area—namely support industries for tugboat operations and agriculture—have declined. Attributable to these bleak economic conditions, the unemployment rate in Greenville stands at 21.1%. The median household income is \$28,635, compared to \$38,882 for the state of Mississippi and \$53,046 for the nation. Further, 30.2% of households in Greenville live in poverty—roughly 13% higher than the average poverty rate in Mississippi and 19% higher than the nation as a whole.<sup>14</sup> Despite the obstacles faced in imagining a prosperous future for Greenville, community residents are committed to leveraging the rich cultural heritage of the region to improve its future. The story of Greenville is difficult and presents many challenges to planning; however, this context also provides an opportunity to test the malleability of performance measures-based planning efforts in an economically depressed rural area—a context that is often ignored in policy-making efforts, yet has critical need for strong governance and efficacious policies.

## Section 2: Planning Context

The mayor of Greenville recently spearheaded an effort to update the town’s comprehensive plan to reflect the contemporary circumstances of the community. The planning effort, led by Orion Planning Group, is comprehensive in scope—transportation is only one component of the plan, accompanied by policies addressing land use, economic development, and public health. The planning effort began in early 2014; as of July 2014, three public meetings had been completed, the goals and objectives of the plan had been officially adopted by the city council, and a draft plan had been presented to the community. Overarching issues articulated in the plan include “right-sizing” the city (i.e., reducing the extent of public services, transferring abandoned properties to public ownership, etc.), managing dilapidated properties, and attracting economic development. In line with these overarching issues, the plan put forth nine goals:

1. Stabilize our population and enhance our local and regional economy
2. Stabilize families and neighborhood communities
3. Promote and facilitate excellent project and environmental design
4. Promote and enhance our existing strong transportation and mobility infrastructure while creating a viable network of other mobility options
5. Preserve open space and promote recreational opportunities

<sup>12</sup> U.S. Census Bureau, Census 1990, <http://factfinder2.census.gov>

<sup>13</sup> U.S. Census Bureau, American Community Survey (ACS), 2012 ACS 5-year Estimates, <http://factfinder2.census.gov>; (2 October 2014)

<sup>14</sup> U.S. Census Bureau, American Community Survey (ACS), 2012 ACS 5-year Estimates, <http://factfinder2.census.gov>; (2 October 2014)

6. Support existing public facilities and create a sustainable plan for maintaining public facilities into the future
7. Promote well-planned and well-designed quality living spaces, with a variety of housing types and sizes available
8. Facilitate the creation of beautiful and vibrant commercial and governmental core of the City of Greenville
9. Build on existing industrial development creating new opportunities for the development of industrial uses and employment centers

The team from NCSU interfaced with the planning effort at this stage and took the nine agreed-upon goals as given and developed a one-day (8-hour) community engagement workshop focused on integrating performance measurement into the planning effort.

### Section 3: Workshop Format

The NCSU team developed an intensive one-day, consensus-driven workshop. The primary goals of the workshop were to reach consensus on a list of performance measures associated with each goal, link performance measures with actions, and use performance measures to generate discussion on cross-linkages—and redundancies—between goals. The workshop included presentations to all participants, small group discussions, and large group discussions. This format was developed to foster *within*-group consensus during the group discussion and *between*-group consensus during the larger discussions. The workshop closed with a mapping exercise to illustrate how performance measures link to both goals and actions and identify gaps where goals are not supported by relevant actions. The full agenda is included in Appendix C-1.

### Section 4: Workshop Summary

#### 4.1 Workshop Preparation

Prior to the workshop, the NCSU team worked with Orion Planning Group to develop materials to help facilitate discussions. The NCSU group designed two exercises: a two-stage process to screen a set of pre-selected performance measures and a mapping process. Preparation for each of these activities is described below:

**Performance Measures:** The NCSU team first selected a list of candidate performance measures for each goal using the Community Vision Metrics Tool developed by the Federal Highway Administration. This initial list included 15-20 performance measures per goal. The NCSU team internally vetted this initial list, altering wording for clarity and simplifying technical language as necessary. The NCSU team then coordinated with Orion Planning Group to finalize performance measure lists for each goal. Orion Planning Group was allowed to add or remove performance measures to fully capture the content of each goal, providing the “on the ground” planning team an opportunity to ensure that the final list of performance measures accurately reflected the needs of the community. Finally, worksheets were developed for each goal to assist groups in screening performance measures. Worksheets include the final list of performance

measures for each goal, columns to score for each performance measure based on four indicator quality criteria (discussed in Section 4.6), and relevant supporting information. An example worksheet is included in Appendix C-2.

**Performance Measure Quality Criteria:** Prior to developing workshop materials, the NCSU team reviewed existing resources on performance measure quality to develop a compact list of performance measure quality criteria. Consistent themes in the literature were distilled into four criteria:

- **Understandable** – meaningful and easy to understand for general public and decision-makers alike
- **Available** – data supporting measure are tracked over time at a relevant geographic scale
- **Feasible** – data supporting measure do not entail significant costs and/or resources (i.e., advanced geographic information systems)
- **Relevant** – the measure is robustly linked to the outcome and change in the measure implies progress towards the identified goal

**Mapping Exercise:** To illustrate connection between goals and actions the NCSU team developed a mapping exercise to close the workshop. A large sticky wall would be hung from the wall of the workshop room. Along the top of the wall, all nine goals would be listed. Along the side of the wall, a list of actions was developed in coordination with Orion Planning Group. Workshop participants would be asked to place performance measures in the cells created in the matrix, thereby connecting goals to actions through performance measures.

#### *4.2 Workshop Participants*

The workshop had 32 participants selected by the Mayor and representing a variety of backgrounds. Citizens, government officials, community organizers, and local business leaders were amongst the workshop participants. Notably, the participants were largely not from technical backgrounds and, while community interests were represented very well, issues of governance were less represented in the workshop.

#### *4.3 Morning Session I: Introductions and Overview of Planning Effort*

The workshop began with participant introductions to acquaint the teams from NCSU and Orion Planning Group with the community members present. Immediately following introductions, a brief overview of planning efforts completed to date in Greenville, presented by Orion Planning Group. Not all workshop participants had been actively engaged in the planning process to this point; thus, the intent of this presentation was to get all of the workshop participants on equal footing regarding the status of the plan.

#### *4.4 Morning Session II: Overview of Performance Measurement*

Following the overview of the planning effort presented by Orion Planning Group, the NCSU team presented an overview of the principles of performance measurement to all workshop participants. This presentation focused on the need for performance measurement and the mechanisms through which performance measurement improves the outcomes of planning processes.



#### 4.5 Morning Session III: Initial Screening of Performance Measures

The morning session concluded with the first group exercise. The NCSU team first assigned participants to one of four groups based on the role of participants in the community and their expertise as articulated during introductions. Groups were assigned to maximize the breadth of expertise and knowledge within each group; however, the limited technical expertise amongst workshop participants limited the breadth of expertise to some extent. Each group was assigned 2-3 goals and given performance measure worksheets for each assigned goal. The groups met around large tables to foster discussion and were by a facilitator from either the NCSU team or Orion Planning Group. Groups were asked to discuss their general, high-level reactions to the performance measures listed on each associated goal worksheet, to delete any performance measures that did not seem appropriate for the Greenville context, add additional performance measures they felt were missing, and refine language for clarity. After groups developed performance measures for each goal, they added the measures to the sticky wall (see Figure 4).

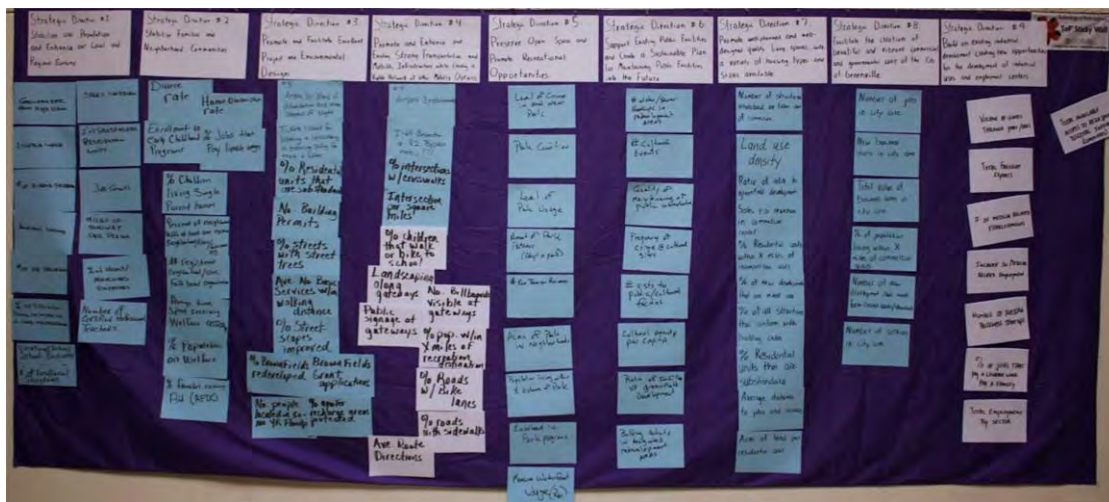


Figure 4: Performance Measures developed during initial screening

#### 4.6 Morning Session IV: Performance measure quality evaluation

Following initial high-level group discussions on assigned performance measures, the NCSU team gave a brief presentation to all workshop participants on performance measure quality. This presentation included the four performance measure quality criteria discussed above. The workshop then adjourned for a brief lunch provided on-site.

#### 4.7 Afternoon Session I: Performance Measure Scoring

Following a short break for lunch, participant groups reconvened and were asked to score their assigned performance measures using the four quality criteria noted above. For simplicity, participants were asked to score each measure on a three-point scale based on whether or not measure was consistent with each quality criteria (i.e., “Yes, consistent”, “Neutral”, or “No, not consistent”). The intent of this exercise was to generate richer and more focused discussion of each

performance measure by asking participants to assess quality along defined dimensions. Groups were once again allowed to drop and/or add performance measures and change wording as appropriate. At the conclusion of this exercise, each group had developed a consensus list of performance measures for their assigned goals. However, no prioritization mechanism was included; thus, group consensus regarding the “best of the best” performance measures was not elicited.

#### 4.8 Afternoon Session II: Mapping Exercise

In the final workshop exercise, groups were asked to write their performance measures on post-it notes and place them in any cells formed by the matrix for which the performance measure addresses both the goal and action associated with that cell. The list of actions included was not comprehensive; rather, the Orion Planning Group identified a small number of potential actions based on their knowledge of the community for this exercise. For example, the performance measure “Percentage of streets with landscaping” would be placed in the cell representing the goal “Facilitate the creation of beautiful and vibrant commercial and governmental core of the City of Greenville” and the action “Develop attractive streetscape.” However, this measure would not be placed in a cell representing the same goal and the action “Develop demolition program for abandoned properties” because it is only applicable for one dimension. Due to the large number of performance measures that remained to this point, most groups were only able to complete this exercise for a handful of performance measures; however, the exercise still provided valuable insights. This exercise is depicted graphically in Figure 5.

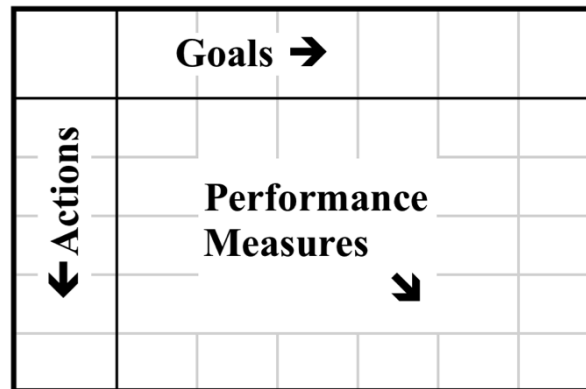


Figure 5: Mapping exercise schematic

#### 4.9 Afternoon Session III: Workshop conclusion

At the conclusion of the mapping exercise, a brief five-question survey was distributed to all workshop participants and concluding comments were made encouraging participants to stay engaged in the planning process as it moved forward. The team from NCSU and Orion Planning Group met to reflect on the workshop and discuss ways to improve future outreach efforts.

## Section 5: Results

The workshop resulted in two primary products: refined performance measure lists for each goal and performance measures mapped to goals and proposed policies and projects.

### 5.1 Performance measure lists

An extensive list of performance measures were discussed and scored by workshop participants ( $n=97$ ). Quality scores accompany each performance measure; some include comments and/or changes in wording. For illustrative purposes, the worksheet for Goal 7 is presented in Table 10; the remaining goals are presented in Appendix C-2.

**Table 10: Performance measures worksheet, Goal 7**

Performance Measures	Criteria Scores (Yes/Neutral/No)					Comments
	U *	A *	F* *	R *	Score	
Land use density	Y	Y	Y	Y	4	
% residential units that are substandard	Y	Y	Y	Y	4	Breakdown by type
% structures that conform with codes	Y	Y	Y	Y	4	Issue is w/existing units
<del>Average energy efficiency of buildings</del>	-	-	-	-	-	<del>Deleted</del>
% residential units within X miles of incompatible uses	E	Y	Y	Y	3	
Acres of land per residential unit	Y	Y	Y	Y	4	Some districts too close together, others not – esp. new construction
<del>Acres of land per residential unit</del>	-	-	-	-	-	<del>Deleted</del>
Average distance to jobs and services	Y	N	N	N	-2	By neighborhood (important)
% new developments that are mixed	Y	Y	Y	Y	4	Re-worded
Ratio of infill sites versus greenfield sites	N	Y	Y	Y	2	Re-worded
Sales tax revenue in commercial center	Y	Y	Y	Y	4	
No. of units rehabbed/taken out of commission	Y	Y	Y	Y	4	

\*U: Understandable; A: Available; F: Feasible; R: Relevant

### 5.2 Mapping Exercise

A picture taken of the final matrix is presented in Figure 6 (on the following page); a transcription of the table in its entirety is included in Appendix C-3.



**Figure 6: Mapping exercise outcome**

## **Section 6: Workshop Assessment.**

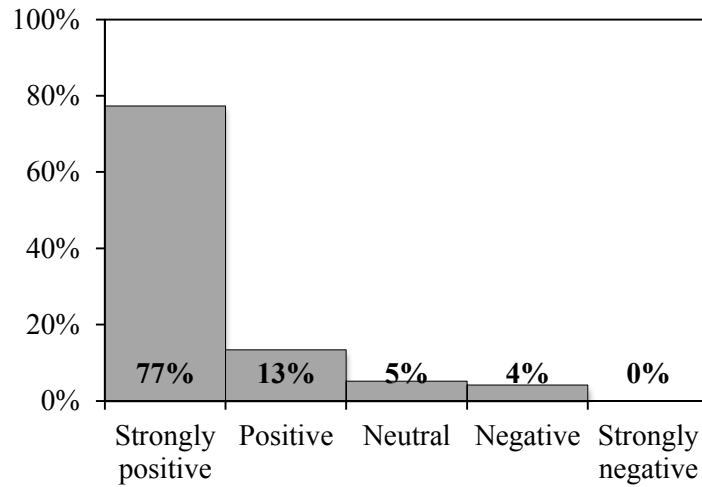
The efficacy of the workshop itself may be assessed in several ways. First, analysis of the performance measure scores and comments left by workshop participants on the worksheets provide a useful record of the discussions that occurred amongst participants. Survey results provided participants an opportunity to express their thoughts regarding the workshop. Finally, the NCSU team and Orion Planning Group met to share their experiences as workshop facilitators.

### *6.1 Worksheet analysis*

While it is difficult to objectively assess the efficacy of the performance measures screening process, comments left on the worksheets completed by each group provide a proxy for the depth the discussions within each group. Comments addressing methodological issues, measurement scale, and other issues were noted for 20 measures. Changes in wording were suggested for 8 measures. Comments regarding coordination issues (i.e., parallel data collection efforts, potential partners, etc.) were noted for 7 measures. Finally, comments regarding funding were noted for 3 measures. In all, 37 performance measures had comments that imply focused and detailed discussion.

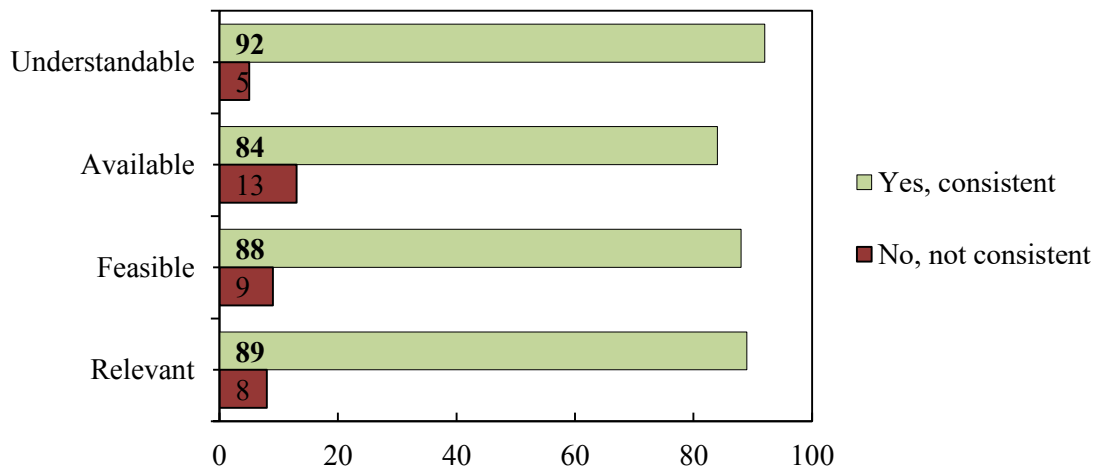
Observed variation in performance measure scores provides insight into the usefulness of the scoring process. Overall, participants ranked nearly all performance measures very highly. Further, while it was intended that participants used a three-tiered scoring system, the vast majority of measures were scored using a binary system (i.e., only “Yes” and “No”). Figure 7 presents the distribution of scores, summing across the four criteria for each indicator and assigning “Yes”

responses a value of 1, “Neutral” responses a value of 0, and “No” responses a value of -1 and grouping by score as follows: Strongly positive (4), Positive (1 to 3), Neutral (0), Negative (-1 to -3) or Strongly negative (-4).



**Figure 7: Distribution of performance measures scores**

Little variation was also present across within specific quality criteria summed across all performance measures. Figure 8 shows the number of “Yes” and “No” responses for each quality criteria, summed across all performance measures. One “Neutral” response to the Understandable quality criteria is included in the “No” response category.



**Figure 8: Distribution of quality criteria scores**

Overall, while the scoring process yielded little variation in performance measure scores, comments left on the worksheets by participants speak to the depth of discussions that occurred regarding specific measures. Further, the depth of comments for some measures (i.e., identifying



coordinating partners and methodological issues) implies that group discussions were occurring with a significant degree of depth. The performance measurement screening process as a whole generated substantial discussion of performance measures within groups; however, the scoring system used seemed to limit the variation in performance measure scores, making it difficult to identify the “best of the best” from the very large initial set of performance measures. The large number of remaining performance measures may have limited the usefulness of the mapping exercise; this issue is discussed in greater detail in Section 7.1.

## 6.2 Survey results

Responses from the survey distributed to participants are synthesized below:

**Question 1:** What did you like about the workshop? (*number of responses*)

- Engagement and interaction (8)
- Diversity of participants (6)
- Informative (3)
- Goal-oriented (2)

**Question 2:** What would you improve?

- More time/limit scope (3)
- Reduce repetition/improve organization of the process (3)
- Refine mapping exercise (1)

**Question 3:** What was the most interesting thing that you learned or experienced today?

- Engagement and cooperation (4)
- Exposure to the plan, generally (4)
- Performance measures as a demonstration of accountability (1)
- Mapping exercise (1)
- Right-sized development concept (1)

**Question 4:** How will your work today inform and empower efforts to plan for the future of Greenville?

- Will keep me engaged in the planning process in the future (4)
- Unsure/do not think it will have an impact (3)
- Result in tangible activities towards beneficial outcomes (2)
- Provided hope and encouragement to participants (1)

## 6.3 Team reflection and summary

The NCSU team and Orion Planning Group met to reflect on the workshop immediately upon its conclusion. In large part, reflections from the two teams support inferences that may be made from the data presented above. First, group discussions regarding performance measures were detailed and focused and leveraged the specific knowledge of participants; however, the scoring process itself seemed secondary to these discussions. Secondly, many participants seemed overwhelmed by the mapping exercise, an insight that is reflected in the survey responses to question 2. Thirdly, participants were very engaged with the process and were very receptive to

being involved in a more detailed “in the weeds” than traditional public engagement efforts. Overall, the workshop format engendered a strong spirit of cooperation amongst a diverse group of stakeholders, many of whom walked away with a strong sense of having been engaged in the process. A number of participants noted a commitment to staying involved in the planning process, indicating stakeholder buy-in and plan ownership. However, outcomes regarding specific performance measures were vaguer. Due to limited variability in scoring, the workshop did not develop a list of the best performance measures to include in the plan but it did include potential measures. Additionally, the mapping exercise was too broad in scope to be effective. These insights lead to valuable lessons learned and opportunities for process improvement in the future.

## Section 7. Conclusions and Discussion

### 7.1 Lesson Learned

#### 1. Performance measurement resonates with stakeholders and supports engagement

Stakeholders felt engaged throughout the process and were very receptive to the principles of performance measurement. Further, comments provided on performance measure worksheets indicate that thorough discussions took place about specific measures. One participant noted that performance show that “...we can have accountability [in] implementing and managing the plan,” demonstrating both stakeholder buy-in as well as an appreciation for the benefits of performance measurement. Further, participants noted that the workshop provided excellent engagement opportunities.

#### 2. If prioritization of performance measures is desired, it needs to be made explicit

As shown in Figures 5 and 6, participants were generally unwilling to score performance measures poorly using the given the quality criteria. While this may demonstrate optimism and broad acceptance of performance measurement amongst stakeholders, it did not provide an opportunity for participants to select the “best of the best” measures. An explicit ranking process may be needed to force participants to make negative judgments against performance measures – i.e., to judge certain measures as worse than either an ideal measure or a better measure within the set of measures being assessed. Another potential impediment to selecting the best measures may have resulted from the lack of technical expertise provided by the participants.

#### 3. Mapping measures to goals and actions is useful, but only if limited in scope

While some participants thought the mapping exercise was a very useful component of the workshop (survey response, question 3), others felt overwhelmed with the process and/or did not see the usefulness of the mapping exercise. If given a much smaller set of performance measures, stakeholders may find such an exercise more useful. Thus, similar exercises in the future should be preceded by an explicit ranking process to narrow large lists of performance measures to a compact list of the most preferred measures. Further, the exercise should be framed so that the expected outcomes are clear and linked with larger goals. While several participants noted that the workshop as a whole felt very goal-driven (survey responses, question 1), others felt that the mapping exercise lacked focus (survey responses, question 2) indicating that some participants may have struggled connecting the mapping exercise to the rest of the workshop.



#### 4. Specific and locally relevant wording of performance measures is critical

While it is important that performance measures have a neutral stance and broad applicability, wording may need to be refined in response to local context. For example, the measure “average residential lot size” was interpreted to mean different things even within Greenville: in new developments, smaller lot sizes were noted as desirable while in older neighborhoods, participants expressed that lot sizes are too small and, if a property is abandoned and redevelopment is desired, some lots are so small that modern development ordinances do not allow new construction. Thus, local context may result in participants interpreting an otherwise neutral measure in either a positive or a negative sense; in this case, residents of older neighborhoods viewed small lots as undesirable and preferred an upward trend in this measure whereas residents of newer developments viewed smaller lot sizes as desirable and preferred a downward trend. Community outreach is critical in revealing nuanced interpretation of measures at the local scale.

#### 5. Performance measures enable objective communication between stakeholder groups

As evidenced by the discussions generated amongst participants with diverse backgrounds experiences, and knowledge bases, performance measures may provide an avenue for objective discussions about specific issues in the context of larger goals. Participants noted that the process encouraged both engagement and cooperation, and comments left on the worksheets showed that participants were able to identify potential patterns and collaborators across sectors in discussions specific performance measures.

### *7.2 Process Improvement*

There are several lessons learned from this workshop to refine future workshops, including:

Participants should reflect a triad of perspectives including technical, policy makers and civically engaged residents. The NCSU team requested a balance of participation from three unique perspectives; however, more than 80% of the participants (selected by the Mayor) represented non-profit groups and other concerned members of the public including two ministers. While it was a wonderful opportunity for civically engaged members of the public to voice their issues, the workshop was not designed as a forum to air general concerns about the social and economic conditions of Greenville. More technical expertise could have provided input to help narrow down performance measures that are realistic to collect and track. Policy maker representation could have provided insight into other local priorities which could have shaped the discussions on selecting the best measures. On a positive note the workshop demonstrated that performance measures resonate with members of the public and they appreciate being asked to identify tangible metrics to track success. There clearly was a sense of empowerment and ownership of the process in that participants were being asked to think critically about the future and what they would actually see change “on the ground” as a result of the plan goals. This is a very exciting opportunity to improve planning public engagement opportunities.

It is preferable to have the same group that develops the goals also identify performance measures. The Orion Planning Group responsible for developing the Comprehensive Plan worked with local leaders and members of the public to develop the goals presented to the group. However, most of the participants at this workshop had not participated in the development of the goals. While the participants did not forcibly object to any of the goals there is a synergistic benefit in having the same group develop the vision goals. This occurs primarily from the collaborative discussions that arise from crafting goal language which requires focused conversations about “what you really want to accomplish”. The discussions provide a foundation to effectively and efficiently move into selecting performance measures. When goals have been selected by a different working group there can be questions about what the goal words really mean which can lead to confusion.

The timeframe allowed for the workshop was not adequate to complete all activities. The workshop did not allow enough time for all activities to be adequately completed for full ownership and understanding by participants. Future workshops should reflect this experience to ensure that exercises can be designed in a manner which allows participants to coherently integrate results into planning process outcomes.

## Appendix C-1: Workshop Agenda

Agenda  
 Greenville Performance Measures Workshop  
 July 22, 2014  
 William Alexander Percy Library  
 341 Main Street, Greenville, Mississippi

Registration/Check In: 8:30 to 9:00am

Topic	Participants	Time
Welcome & Introductions	Mayor Cox and Bob Barber	9:00-9:30
Overview: Greenville Comprehensive Plan	Bob Barber	9:30-10:00
Overview: Livability Performance Measures	Leigh Lane	10:00-10:20
Review Preliminary Performance Measures	All participants	10:20-11:00
Evaluation Criteria for Selecting Performance Measures	Leigh Lane	11:15-11:45
– <i>Working Lunch</i> –		
Select the Best Performance Measures	All participants	12:15-2:00
– <i>Short Break</i> –		
Connecting Performance Measures to Solutions	All participants	2:30-4:30
Next Steps	Bob Barber	4:30-5:00
– <i>Adjourn</i> –		

## Appendix C-2: Completed Worksheets

### **Strategic Direction 1: Stabilize our Population and Enhance our Local and Regional Economy**

**Context:** Greenville saw the local population peak in 1990 at 45,226 persons. Since 1990, the city's population has seen accelerating decline by more than 11,000 representing one fourth of the population. The most recent estimates indicate continued decline. Greenville's median household income is over \$10,000 less than the state average, and the city has a larger than average percent of the population at or below the poverty level. A higher percentage of the residents rent rather than own their own homes. A higher percentage of residents live in multifamily rather than single-family homes. Nearly one third of core neighborhoods have been abandoned. Dilapidated buildings and abandoned signs are common on main entryways.

**Objective 1.1:** Right size Greenville by eliminating dilapidated properties, taking land and infrastructure no longer needed out of service, and aggressively re-planning and rebuilding core neighborhoods **Objective 1.2:** Reestablish Greenville as a desirable City where people want to live, tourists want to visit and businesses want to establish and grow

**Objective 1.3:** Improved employment possibilities for Greenville residents, including better paying jobs

**Objective 1.4:** Advance Greenville Higher Education Center as a 4Lyear center of higher education instruction

Performance Measures	Criteria Scores ( <u>Y</u> es/ <u>N</u> eutral/ <u>N</u> o)					Comments
	U*	A*	F*	R*	Score	
Percent of residential units that are substandard	Y	Y	Y	Y	4	
Percent of population living and/or working in designated core neighborhoods	N	Y	Y	Y	2	
Percent of total city area occupied by vacant/abandoned properties	Y	Y	Y	Y	4	
Miles of roadway lanes (lane-miles) per person or per square mile	N	Y	Y	Y	2	
Sales tax revenue	Y	Y	Y	Y	4	
Net job growth	Y	Y	Y	Y	4	
Mean/median household income	Y	Y	Y	Y	4	
Percent of jobs that pay a livable wage for a family of two	Y	Y	Y	Y	4	
Graduation rate for 4-year degree programs	Y	Y	Y	Y	4	
Number of 4Lyear degree programs offered	Y	Y	Y	Y	4	
Graduation Rate from Vocational programs	Y	Y	Y	Y	4	
Graduation rate from high schools	Y	Y	Y	Y	4	
Number of certified professional teachers-(vocational- example)	Y	Y	Y	Y	4	
Business Connections w/ Vocational Programs	Y	Y	Y	Y	4	

**Strategic Direction 2: Stabilize families and neighborhood communities**

**Context:** Family dynamics in Greenville may be hurting success. In 2010 31% of households were classified as nonfamily and only 47% of the households were considered husband and wife families by the Census Bureau. Research has shown that households of married adults have higher levels of education and economic stability. Two parent households are also shown to be beneficial in child-rearing.

**Objective 2.1:** Create more stable family structures, both for economic and child rearing stability **Objective 2.2:** Create and support neighborhood organizations

Performance Measures	Criteria Scores ( <u>Y</u> es/ <u>N</u> eutral/ <u>N</u> o)					Comments
	U*	A*	F*	R*	Score	
Enrollment in early childhood programs	Y	Y	Y	Y	4	
Homeownership rate	Y	Y	Y	Y	4	
Divorce rate (Marriage rate)	Y	Y	Y	Y	4	Change to Marriage Rate. People don't marry here. 70% of women are single parents. This category should be renewed.
Percent of children in single-parent households	Y	Y	Y	Y	4	
Percent of jobs that pay a livable wage for a family of two	Y	Y	Y	Y	4	\$23,000 you will eat next day.
Percent of children receiving Aid for Families with Dependent Children (AFDC)	Y	Y	Y	Y	4	
Percent of population on welfare	Y	Y	Y	Y	4	
Average time spent receiving welfare assistance	Y	Y	Y	Y	4	
Number of registered neighborhood/civic/faith-based organizations	Y	Y	Y	Y	4	
<del>Average size (number of persons participating) of registered neighborhood/civic/faith-based organizations</del>	Y	Y	Y	Y	4	<i>Deleted</i>
<del>Percent of neighborhoods with at least one registered neighborhood/civic/faith-based organizations</del>	Y	Y	Y	Y	4	<i>Deleted</i>
Percentage of uninsured	Y	Y	Y	Y	4	
Percentage of non-contributing adults(18-30)- The invisible Population	Y	N	Y	Y	2	

**Strategic Direction 3: Promote and Facilitate Excellent Project and Environmental Design**

**Context:** Because Greenville is the business and cultural center of a multi-county region, it has a unique opportunity to create and sustain a vital, livable and sustainable community. Through good design practices it can grow, prosper and maintain a healthy place in which to live, work, worship, shop and recreate. Greenville has a wealth of significant architectural and historic resources that should be preserved for future generations (community memory) and cultural and heritage tourism strategies. Deterioration on the physical environment is substantial and city must redevelop and revitalize deteriorating and dilapidated areas.

**Objective 3.1:** Promote and create our beautiful and unique community, building a strong sense of place and a high quality of life

**Objective 3.2:** Promote durable, sustainable, and attractive redevelopment

**Objective 3.3:** Create an environmentally sound city with minimum soil erosion, local flooding and pollution. Minimize flooding and pollution from runoff, reduce sedimentation of streams and other water bodies, and retain sufficient aquifer recharge areas

**Objective 3.4:** Identify and promote the redevelopment of brownfields

Performance Measures	Criteria Scores (Yes/Neutral/No)					Comments
	U*	A*	F*	R*	Score	
Percent of streetscapes that are improved	Y	Y	Y	Y	4	Planter, signs, sidewalks, benches, lighting, parking, trees, visibility, old cars moved working on cars in yard, garbage trash. Greenville Pride Committee, Garden Club, Main St.
Average number of basic services within walking distance of residential units	Y	Y	N	N	0	
Percentage of streets with street trees	Y	Y	Y	Y	4	Tree board (times 2)
Number of building permits issued	Y	Y	Y	Y	4	
Percent of residential units that are substandard	Y	Y	Y	Y	4	Looking into this topic
Amount of impervious surface	Y	Y	Y	Y	4	City & County Public & Road Works; Public Works
Number of people and total property value located in 50< or 100< year floodplains	Y	Y	Y	Y	4	Cost, flood area & zone & impact people buying houses
Percent of aquifer recharge areas that are protected from future development	Y	N	Y	Y	2	Cypress Prosene
Percent of brownfield sites (by acreage) that have been redeveloped, using 2014 as a baseline	Y	Y	Y	Y	4	In process of impact studies ; plenty available
Grant applications submitted for brownfield sites (e.g., EPA grant)	Y	Y	Y	Y	4	
(Dilapidation) How many areas have been clear of blight by ward	Y	Y	Y	Y	4	
How many tickets were written for littering/ trash & consistency in enforcing the policy of trash litter & trash	Y	Y	Y	Y	4	

**Strategic Direction 4:** Promote and enhance our existing strong transportation and mobility infrastructure while creating a viable network of other mobility options

**Context:** Greenville has a very sound vehicular transportation network including an airport, a river port, a rail system and strong regional auto/truck streets and highways. At the same time, vehicular traffic is declining along with population resulting in a reduced need for automobile infrastructure. Also, Greenville's gateway approaches are not as attractive and inviting as they could be. Alternative forms of mobility including walking and biking are growing in popularity and can help reduce traffic problems and pollution. New forms of development encourage walking and biking by keeping trip origins and destinations in close proximity to one another through mixed-use developments.

**Objective 4.1:** Support a viable transportation system for efficient flow and economic development, including air, water, rail and auto/truck transport

**Objective 4.2:** Create a community that is easy and convenient to navigate by automobile, walking and biking through an interconnected system of sidewalks, bikeways, and linear parks

**Objective 4.3:** Create community gateways that give a positive first impression of the community

**Objective 4.4:** Work for completion of the southern highway connector from Leland to the river

**Objective 4.5:** Increase mobility choices to enhance the attractiveness of Greenville for younger working age residents

Performance Measures	Criteria Scores (Yes/Neutral/No)					Comments
	U*	A*	F*	R*	Score	
Percent of intersections with crosswalks	Y	N	N	N	-2	Funding
Intersection density (intersections per square mile)	Y	Y	N	N	0	A lot; Bigger fish to fry
Average route directness (distance along network divided by "as the bird flies" distance, to downtown core and commercial nodes)	Y	Y	N	N	0	\$\$\$
Percent of roads with sidewalks	Y	N	Y	Y	2	Finances/ -86
Percent of roads with bike facilities	Y	Y	Y	Y	4	
Percent of population within X miles of a recreational destination, such as linear parks	Y	N	N	Y	0	
Public signage at designated gateways	Y	Y	Y	Y	4	Need more for direction to sites
Building set-back along designated gateways	Y	Y	Y	Y	4	
Number of billboards visible at designated gateways	Y	Y	Y	Y	4	TOO MANY
Landscaping, vegetation, and streetscape improvements along designated gateways	Y	Y	Y	Y	4	Open to decision maintenance/ crew/funding
Walking and biking modal share, including percent of children walking or biking to school	Y	N	N	N	-2	Dangerous; diminished
Airport enplanements	Y	Y	Y	Y	4	
(How to measure this?) The 82 bypass of I-69 Connector	Y	Y	Y	Y	4	



**Strategic Direction 5: Preserve open space and promote recreational opportunities**

**Context:** Well-placed open space helps retain the character, attractiveness, and unique sense of place and help the environment as well as providing residents places for passive and active non-programmed recreation activities. Active recreation programs are a desirable and essential element for fun and personal development. Open space areas and natural recreational areas can provide tourism opportunities for the city while assisting with environmental goals.

**Objective 5.1:** Support a visually attractive city with significant vistas and plenty of parks and open space for passive recreational activities

**Objective 5.2:** Create an active and growing recreation program for all ages and cultures in Greenville which includes sports and arts activities

**Objective 5.3:** Provide a community with abundant natural areas for nature tourism activities

Performance Measures	Criteria Scores (Yes/Neutral/No)					Comments
	U*	A*	F*	R*	Score	
Percent of population living within <i>X</i> miles of a recreational destination or open space	Y	Y	Y	Y	4	
Enrollment in recreational programs by age group	Y	N	Y	Y	2	Multiple players
Percent of children walking or biking to school	Y	Y	Y	N	2	Relevant at elementary level
Portion of residents who walk or bike for health purposes	Y	N	N	Y	0	
Acres of open space protected from future development	Y	Y	Y	Y	4	
<del>Land use density</del>	-	-	-	-	-	<i>Deleted</i>
<del>Acres of priority conservation areas protected from future development</del>	-	-	-	-	-	<i>Deleted</i>
<del>Percent of natural vegetation preserved</del>	-	-	-	-	-	<i>Deleted</i>
Number of ecotourism businesses	Y	Y	Y	Y	4	
Amount of park usage	Y	N	Y	Y	2	Could be tracked
Number of Park Partners	Y	Y	Y	Y	4	Program have to be developed
Measure conditions	Y	N	Y	Y	2	Data
Incidence of crime in parks	Y	Y	Y	Y	4	
# Waterfront users/eco	Y	Y	Y	Y	4	
Value of funding/?	Y	Y	Y	Y	4	

**Strategic Direction 6: Support existing public facilities and create a sustainable plan for maintaining public facilities into the future**

**Context:** Greenville has some serious problems with its sewer system that is on track to be resolved. In addition public input indicates that streets in the city need consistent attention. It is important that the city anticipate change and plan appropriately for needed improvement and its funding. In spite of this, Greenville has seen a resurgence of cultural activities of regional importance, like the Hot Tamale Festival in the fall. Cultural activities are an important element present in successful communities. They can revitalize a historic downtown area, have a civilizing effect on residents, and help a city become a destination of choice for visitors and permanent residents.

**Objective 6.1:** Encourage redevelopment in existing neighborhoods to take advantage of existing infrastructure like water and sewer lines, streets, etc.

**Objective 6.2:** Continue to support the recent growth of thriving cultural facilities, including museums, community theaters, art galleries and other cultural amenities

**Objective 6.3:** Expand the city's territory in highly strategic areas when the long-term costs and benefits can be adequately demonstrated and when expansion supports these strategic directions

Performance Measures	Criteria Scores ( <u>Y</u> es/ <u>N</u> eu <u>t</u> ral/ <u>N</u> o)					Comments
	U*	A*	F*	R*	Score	
<del>Land use density</del>	-	-	-	-	-	<i>Deleted</i>
Percent of building permits issues within <i>X</i> miles of existing city core or designated development nodes	Y	Y	Y	Y	4	
<del>Percent of residential units served by piped municipal water and wastewater services</del>	-	-	-	-	-	<i>Deleted</i>
Ratio of infill/brownfield sites with granted access versus greenfield sites granted new access	N	Y	Y	Y	2	Clarify the terms
Cultural amenities per capita	Y	Y	Y	Y	4	i.e. museums
Total number of visits to public cultural facilities	Y	N	Y	Y	2	
Percent of population living within <i>X</i> miles of a cultural amenity	Y	Y	Y	Y	4	
Crime Frequency	Y	Y	Y	Y	4	If reported
Quality of Repair (streets, etc.)	Y	Y	Y	Y	4	
# cultural events	Y	Y	Y	Y	4	
# Water sewer Hookups/ discounts in redevelopment areas	Y	Y	Y	Y	4	

**Strategic Direction 7: Promote well\*planned and well\*designed quality living spaces, with a variety of housing types and sizes available**

**Context:** Greenville faces many housing challenges. As the population ages, there will be a need for a broader variety of housing types and sizes, but not a reduction in the desire and need for a high quality living environment. While recognizing that existing residential areas that are stable and viable are valuable to the city's overall development, there has to be action taken to stabilize the rental properties and the communities who rent. More Greenville residents rent than own housing; \_\_\_\_ % live in multi\*family rather than single\*family residential situations; almost \_\_\_\_ % of the housing stock was constructed before 1970. Even if Greenville focuses revitalization and redevelopment efforts within the core of the city, Greenville will continue to experience some development of vacant or "frontier" areas into residential areas despite population declines.

**Objective 7.1:** Encourage the development of high quality residential areas, regardless of the type of housing, density of development, or price. Require quality construction and design standards

**Objective 7.2:** Continue to protect stable residential areas from disruptive uses such as incompatible higher density residential structures, and encroaching industrial and inappropriate commercial uses

**Objective 7.3:** Create well\*designed, environmentally neighborhood and or mixed\*used traditional neighborhood developments of varying housing types interconnected with other areas

**Objective 7.4:** Strengthen commercial center in area of the mall and nearby commercial development and south for attractiveness, functionality, and long\*term stability by reducing its sprawl pattern

Performance Measures	Criteria Scores (Yes/Neutral/No)					Comments
	U*	A*	F*	R*	Score	
Land use density	Y	Y	Y	Y	4	
Percent of residential units that are substandard	Y	Y	Y	Y	4	Breakdown to single family & multi-unit. Abandoned houses – rehab/ teardown substandard single homes/ apartments.
Percent of structures that conforms with relevant codes and design standards (e.g., form*based codes)	Y	Y	Y	Y	4	Issue is w/existing units
<del>Average energy efficiency of buildings, by type</del>	-	-	-	-	-	<i>Deleted</i>
Percent of residential units within X miles of incompatible uses (needs definition)	E	Y	Y	Y	3	
Acres of land per residential unit, by neighborhood	Y	Y	Y	Y	4	Too close together- by district- read within the context of where you live. Especially with new
<del>Acres of land per residential unit, new construction only</del>	-	-	-	-	-	<i>Deleted</i>
Average distance to jobs and services (schools, grocery stores, retail, employment) assessed for each residential unit	Y	N	N	N	-2	Neighborhoods (important). Single family homes/ walking distance to school/services.
Percentage of new developments that are vertically mixed or have (threshold) number of destinations within X miles of residential units	Y	Y	Y	Y	4	
Ratio of infill/brownfield sites with granted access versus greenfield sites granted access	N	Y	Y	Y	2	Brownfields may have issues
Sales tax revenue in commercial center	Y	Y	Y	Y	4	
# units rehabbed/ taken out of commission	Y	Y	Y	Y	4	

**Strategic Direction 8: Facilitate the creation of beautiful and vibrant commercial and governmental core of the City of Greenville**

**Context:** The City of Greenville possesses a historical, vital central business district that serves as the heart of the community. Its value lies in the appropriate use of the CBD and protection of the historical and architectural resources present there. Greenville also has many abandoned commercial buildings/signs. Most of these are located in “strip” commercial areas. Some of this is due to the declines in population (and thus markets). We know that neighborhood commercial areas, when properly designed and located, serve a vital need. Design standards can significantly reduce the negative impacts of neighborhood commercial areas on nearby residential areas. More specifically, traditional neighborhood developments, which incorporate a mix of uses, can allow the needed commercial and public uses in an acceptable manner.

**Objective 8.1:** Reserve the Central Business District for appropriate entertainment, retail commercial, office, professional, residential and governmental functions

**Objective 8.2:** Support attractive and functional commercial nodes and/or mixed-use developments with properly located and well-designed neighborhood commercial areas

**Objective 8.3:** Ensure downtown and waterfront support both traditional downtown functions of commerce and governance and tourism, entertainment, and recreation

**Objective 8.4:** Develop a Downtown and Waterfront Special Area Plan

Performance Measures	Criteria Scores (Yes/Neutral/No)					Comments
	U*	A*	F*	R*	Score	
Percent of jobs in the city core, by sector	Y	Y	Y	Y	4	
New business starts in the city core, number and percentage of total	Y	Y	Y	Y	4	
Number and total value of commercial/business loans in the urban core as well as percentage of total and percentage of total value	Y	N	N	N	-2	
Percent of population living within X miles of designated commercial nodes (a group of 3 or more different types of retail services)	Y	Y	Y	Y	4	
Percent of total retail establishments in a designated commercial node	Y	Y	Y	Y	4	
Number of new development that meet LEED-ND standards or form-based codes	Y	Y	Y	Y	4	more rehabs
<del>Number of jobs in the city core/waterfront, by sector</del>	-	-	-	-	-	Rehab older buildings to meet standards. <i>Deleted.</i>
Total number of services available in city core/waterfront	Y	Y	Y	Y	4	
Number of abandoned or neglected structure increase	Y	Y	Y	Y	4	And neglected structures

**Strategic Direction 9: Build on existing industrial development creating new opportunities for the development of industrial uses and employment centers**

**Context:** In order to be a relatively self-sufficient and complete city, Greenville should encourage industrial development that offers well-paying jobs to city residents. Costs and benefits for such developments should be considered. Encouraging corporate employment centers is an important component to the future economic development of the city.

**Objective 9.1:** Facilitate the development of attractive, low impact industrial facilities which offer a significant number of well-paying jobs to local citizens

**Objective 9.2:** Support and enhance special areas like the Medical District and other key economic clusters

Performance Measures	Criteria Scores ( <u>Y</u> es/ <u>N</u> eu <u>t</u> ral/ <u>N</u> o)					Comments
	U*	A*	F*	R*	Score	
Total employment, by sector	Y	Y	Y	Y	4	
Percent of jobs that pay a livable wage for a family of two	Y	Y	Y	Y	4	
Total freight exports	Y	Y	Y	Y	4	
Total available sites with high speed digital access	Y	Y	Y	Y	4	Need for citizens, too. Access to computers & internet?
Number of successful new business startups	Y	Y	Y	Y	4	
Change in number of Medically related employment	Y	Y	Y	Y	4	
Number of Medically related establishments	Y	Y	Y	Y	4	
Total freight through the port	Y	Y	Y	Y	4	

### Appendix C-3: Transcription of Mapping Exercise

	<b>Strategic Direction #1:</b> Stabilize our Population and Enhance our Local and Regional Economy	<b>Strategic Direction #2:</b> Stabilize Families and Neighborhood Communities	<b>Strategic Direction #3:</b> Promote and Facilitate Excellent Project and Environmental Design	<b>Strategic Direction #4:</b> Promote and Enhance our Existing Strong Transportation and Mobility Infrastructure while Creating a Viable Network of other Mobility Options	<b>Strategic Direction #5:</b> Preserve Open Space and Promote Recreational Opportunities	<b>Strategic Direction #6:</b> Support Existing Public Facilities and Create a Sustainable Plan for Maintaining Public Facilities into the Future	<b>Strategic Direction #7:</b> Promote Well-planned and Well-designed Quality Living Spaces, with a Variety of Housing Types and Sizes Available	<b>Strategic Direction #8:</b> Facilitate the Creation of a Beautiful and Vibrant Commercial and Governmental Core of the City of Greenville	<b>Strategic Direction #9:</b> Build on Existing Industrial Development Creating New Opportunities for the Development of Industrial Uses and Employment Centers
<b>Acquisition and resale of vacant buildings</b>	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> <li>Percent of vacant and/or abandoned property</li> </ul>		<ul style="list-style-type: none"> <li>Percent of streetscapes vacant buildings yes</li> <li>Percent Ac &amp; resale trees</li> <li>Blight trash and litter</li> <li>Flood resale</li> <li>Substandard acqui situ</li> <li>Building permits resale</li> <li>Resale aquifer</li> </ul>		<ul style="list-style-type: none"> <li>Protected open space</li> <li>Percent of building permits in redevelopment nodes</li> </ul>	<ul style="list-style-type: none"> <li>Ratio of infill to greenfield development</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Land per residential unit/mixed-use</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>
<b>Workforce training</b>	<ul style="list-style-type: none"> <li>Household income</li> <li>Job growth</li> <li>Livable wage</li> <li>Vocational training</li> </ul>	<ul style="list-style-type: none"> <li>Percent of non-contributing adults</li> <li>Percent of jobs that pay a livable wage for a family</li> </ul>		<ul style="list-style-type: none"> <li>Airport workforce training</li> </ul>			<ul style="list-style-type: none"> <li>Land per residential unit/mixed-use</li> </ul>	<ul style="list-style-type: none"> <li>Mixed-use</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Percent of residential units within X miles of incompatible uses</li> <li>Vocational school</li> </ul>
<b>Attractive streetscape</b>	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> </ul>		<ul style="list-style-type: none"> <li>Streetscapes blight</li> <li>Attractive streetscape aquifer</li> <li>Attractive streetscape substandard</li> <li>Attractive streetscape bad roads</li> <li>Trees</li> <li>Attract yes</li> </ul>	<ul style="list-style-type: none"> <li>Bike streetscape</li> <li>Building setback attractive streetscape</li> <li>Improvements gateways attractive</li> <li>Attractive street billboards</li> <li>Signage attractive streetscapes</li> </ul>	<ul style="list-style-type: none"> <li>Amount of park usage</li> <li>Park conditions</li> </ul>	<ul style="list-style-type: none"> <li>Crime frequency</li> <li>Quality of repair</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Land per residential unit/mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>
<b>Neighborhood Councils</b>	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> <li>Percent of population living in core neighborhoods</li> </ul>	<ul style="list-style-type: none"> <li>Home ownership rate</li> </ul>	<ul style="list-style-type: none"> <li>Neighborhood councils bad roads</li> <li>Neighborhood</li> <li>Building permits neighborhood</li> <li>Neighborhood councils</li> <li>Trees</li> <li>Neighborhood floods</li> <li>Neighborhood aquifer</li> <li>Neighborhood councils blight</li> </ul>	<ul style="list-style-type: none"> <li>Neighborhood councils improvements vegetation</li> <li>Bike streetscapes neighborhood</li> </ul>	<ul style="list-style-type: none"> <li>Park partners</li> <li>Park condition</li> <li>Park usage</li> <li>Civil in...????</li> </ul>	<ul style="list-style-type: none"> <li>Crime frequency</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Land per residential unit/mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	



	Strategic Direction #1: Stabilize our Population and Enhance our Local and Regional Economy	Strategic Direction #2: Stabilize Families and Neighborhood Communities	Strategic Direction #3: Promote and Facilitate Excellent Project and Environmental Design	Strategic Direction #4: Promote and Enhance our Existing Strong Transportation and Mobility Infrastructure while Creating a Viable Network of other Mobility Options	Strategic Direction #5: Preserve Open Space and Promote Recreational Opportunities	Strategic Direction #6: Support Existing Public Facilities and Create a Sustainable Plan for Maintaining Public Facilities into the Future	Strategic Direction #7: Promote Well-planned and Well-designed Quality Living Spaces, with a Variety of Housing Types and Sizes Available	Strategic Direction #8: Facilitate the Creation of a Beautiful and Vibrant Commercial and Governmental Core of the City of Greenville	Strategic Direction #9: Build on Existing Industrial Development Creating New Opportunities for the Development of Industrial Uses and Employment Centers
Strengthen Families	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> </ul>	<ul style="list-style-type: none"> <li>Percent of non-contributing adults</li> <li>Percent of jobs that pay a livable wage for a family</li> <li>Percent of children receiving AFDC</li> <li>Percent of children living in single parent households</li> <li>Percent of population uninsured</li> <li>Divorce rate</li> <li>Average time receiving welfare assistance</li> <li>Percent of population receiving welfare assistance</li> <li>Home ownership rate</li> <li>Early childhood enrollment</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen families yes</li> <li>Strengthen families</li> <li>Trees</li> </ul>		<ul style="list-style-type: none"> <li>Waterfront development</li> <li>Park partners</li> </ul>	<ul style="list-style-type: none"> <li>Number of miles from amenity</li> <li>Cultural events</li> <li>Cultural amenities</li> <li>Civil in...????</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Land per residential unit/mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	
Riverfront Development	<ul style="list-style-type: none"> <li>Sales tax revenue</li> <li>Job growth</li> <li>Livable wage</li> </ul>		<ul style="list-style-type: none"> <li>Riverfront flood</li> <li>Riverfront building permits</li> </ul>	<ul style="list-style-type: none"> <li>Bike riverfront</li> </ul>	<ul style="list-style-type: none"> <li>Waterfront development</li> <li>Park usage</li> </ul>		<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Sales tax revenue</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>
Demolition Program	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> <li>Percent of vacant and/or abandoned property</li> </ul>		<ul style="list-style-type: none"> <li>Blight demolition</li> <li>Demolition substandard</li> <li>Demolition yes</li> <li>Demolition buildings</li> <li>Trees</li> </ul>		<ul style="list-style-type: none"> <li>Percent building permits issued within X miles of city core</li> </ul>	<ul style="list-style-type: none"> <li>Ratio of infill to greenfield</li> <li>Crime frequency</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Land per residential unit/mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> </ul>
Historic and Cultural Heritage	<ul style="list-style-type: none"> <li>Household income</li> <li>Job growth</li> </ul>		<ul style="list-style-type: none"> <li>Historical blight</li> <li>Historical</li> <li>Historical yes</li> <li>Historic and cultural substandard</li> <li>Trees</li> </ul>	<ul style="list-style-type: none"> <li>Signage historical</li> <li>Billboards historical and cultural</li> <li>Historical gateways</li> <li>Building setbacks historic and cultural</li> </ul>		<ul style="list-style-type: none"> <li>Cultural amenities</li> </ul>			
Micro Loans	<ul style="list-style-type: none"> <li>Household income</li> <li>Job growth</li> </ul>		<ul style="list-style-type: none"> <li>Micro-loans</li> <li>Micro-loans yes</li> <li>Trees</li> </ul>	<ul style="list-style-type: none"> <li>Airport micro-loans</li> </ul>	<ul style="list-style-type: none"> <li>Number of eco-tourism businesses</li> </ul>		<ul style="list-style-type: none"> <li>Land per residential unit/mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>
Right-Sized Development	<ul style="list-style-type: none"> <li>Miles of roads</li> <li>Percent of residential units that are substandard</li> <li>Percent of vacant and/or abandoned property</li> </ul>	<ul style="list-style-type: none"> <li>Home ownership rate</li> </ul>	<ul style="list-style-type: none"> <li>Right-sized blight</li> <li>Right-sized aquifer</li> <li>Right-sized substandard</li> <li>Right-sizing yes</li> <li>Right-sized</li> <li>Trees</li> </ul>	<ul style="list-style-type: none"> <li>Right-size gateways</li> <li>Road miles</li> </ul>	<ul style="list-style-type: none"> <li>Road miles</li> </ul>	<ul style="list-style-type: none"> <li>Ratio of infill to greenfield</li> <li>Percent of building permits</li> <li>Crime frequency</li> <li>Quality of repair</li> <li>Road miles</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Land per residential unit/mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>
Business Incubation	<ul style="list-style-type: none"> <li>Household income</li> <li>Job growth</li> <li>Livable wage</li> <li>Vocational training</li> <li>Sales tax revenue</li> </ul>		<ul style="list-style-type: none"> <li>Business incubator yes</li> <li>Business incubator yes</li> <li>Brownfield</li> <li>Trees</li> </ul>	<ul style="list-style-type: none"> <li>I-69 business incubators</li> <li>Airport business incubators</li> </ul>	<ul style="list-style-type: none"> <li>Number of eco-tourism businesses</li> </ul>		<ul style="list-style-type: none"> <li>Land per residential unit/mixed-use</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Mixed-use</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>	<ul style="list-style-type: none"> <li>Land-use density</li> <li>Percent of residential units that are substandard</li> <li>Percent of residential units within X miles of incompatible uses</li> </ul>



## Appendix C-4: Questionnaire Responses

### Follow-up Questions

#### 1. What did you like about the workshop?

- Was very well planned and purposefully designated to “end-results”, Thanks!
- Also liked the interaction
- The in-depth of the information given.
- Interactive and Informative
- Citizen engagement and accountability
- The active engagement of the process, and the fact if evolved stake hold from the community
- Engaging! The cross section of participants
- It was very interactive. I appreciate how everyone was engaged
- It was very informative. Copies of the data and research made available would be beneficial.
- It was very participating.
- The opportunity to work in small groups of different backgrounds.
- Open communication
- I was very pleased that the community as a whole was asked to be a part of the improvement for the future of our community.
- Thought provoking- diverse participants
- Goal oriented
- The diversity of the group
- There were a few measures that were interesting. However, most were basic/common sense measures.

#### What would you improve?

- Maybe split into two days
- Shorten the repetition of the scope of the project
- Well done!
- Time constraints
- Involve people who have a desire to develop a business(here and elsewhere)
- Shared data of findings/research done by the facilitators. The PowerPoint was good/handouts for everyone in attendance would aid in the workshop.
- It should be a different day of the week.
- The board exercise.
- The diversity of decision made by input from all and carried out. Also used and not put on the self to accumulate dust.
- Little lengthy on introductions
- The process was not well directed. Very convoluted process. I found it complex and not at all beneficial

#### 2. What was the most interesting thing that you learned or experienced today?

- The activity grid using the sticky wall

- The cooperation of each group as a whole
- Engagement was exceptional.
- That so many people was interested in the re-development of Greenville
- The city was engaged in a planning process
- About “right-sized” development.
- It was interesting to do the performance measures exercise. It shows that we can have accountability of implementing and managing the plan.
- We are a community of many facets, and variables. It takes time to accomplish goals desired.
- That the planning process takes a lot of thoughts.
- Plans and vision for Greenville
- That there were funds that are not exposed to all the community.
- Seeing potential solutions to problems/goals
- That this program has been successful in other parts of the country.
- Meeting other business leaders

3. How will your work today inform and empower efforts to plan for the future of Greenville?

- Not sure. But hopefully it will result in tangible activities toward beneficial outcomes
- Stay involved with my community
- I will commit to the process for the betterment of Greenville
- Detail is necessary...think outside the box.
- Yet to be determined
- Working together as a team to move our city forward is key. Be open to various ideas and feedback from each person with their views/statements.
- Willingness to help out in any way.
- I will spread the message about how Greenville will try to deal fairly with all sections of city.
- Encouraged participants that there are solutions/hope for future
- Very little impact.

## APPENDIX D: HUNTSVILLE, ALABAMA WORKSHOP

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### Summary

On August 22, 2014, a team from North Carolina State University (NCSU) prepared for a workshop in Huntsville, Alabama. The City of Huntsville belongs to a medium-sized metropolitan planning organization which recently completed its five-year transportation plan. The workshop itself is funded by the Southeastern Transportation Research, Innovation, Development and Education (STRIDE) Center at the University of Florida, and leverages the Federal Highway Administration (FHWA) Community Vision Metrics tool to identify context-specific livability performance measures. This section summarizes the site context, planning context, outreach approach, outcomes, workshop assessment, and reflections on lessons learned.

## Section 1: Site Context

Huntsville, Alabama is a growing community located in the northern region of the state of Alabama, and is the county seat of Madison County. In 2013, the population was estimated at 186,254.<sup>15</sup> The larger Huntsville Metropolitan Statistical Area includes both Limestone and Madison counties, population estimated at 435,737 in 2013.<sup>16</sup> The area expects rapid growth in the coming twenty years, and is supported by a diverse economy as well as a strong foundation in aerospace and military technology. The city is also home to the large Cummings Research Park, a major home for high-technology jobs.<sup>17</sup> It is also home to the Redstone Arsenal, formerly a chemical munitions manufacturing center and currently a major missile manufacturer.<sup>18</sup> The city, nicknamed “Rocket City” for its historic rocket development,<sup>19</sup> expects to add 150,000 jobs to the urban area over the next twenty years.<sup>20</sup> To accommodate this growth, and 50,000 current daily inbound commuters,<sup>21</sup> the city is in the process of an ambitious infrastructure update referred to as “Restore our Roads.” The project will cost \$383M and affect primarily limited-access state routes.<sup>22</sup> The city of Huntsville took a leadership role in updating state highways by agreeing to a cost-sharing agreement with ALDOT to update loop roads and limited access highways. The city of Huntsville provides an opportunity to test performance measure-based planning in an area experiencing rapid growth and infrastructure expansion.

## Section 2: Planning Context

In 2014, planning staff began work on updating Huntsville Comprehensive Plan. The purpose of this workshop was to identify tangible measures of success for the transportation component of the Huntsville Comprehensive Plan. The Comp Plan – known locally as “The Big Picture” ([www.bigpicturehuntsville.com](http://www.bigpicturehuntsville.com)) – is designed to examine the ways in which Huntsville is anticipated to grow during the next half-century and, based on that, develop a vision for ensuring that the City continues to be healthy, vibrant, accessible and prosperous. Huntsville and its associated MSA are well-known for having an extensive transportation network – the average commute is one of the lowest in the nation for a City Huntsville’s size – though the network is distinctly “monomodal”. Accommodations for the car have historically taken priority over other modes, resulting in a system that is heavily weighted toward car travel, to the practical exclusion of bike, ped, and transit concerns. As part of the Big Picture process, the City would like to assess the function of its current network, and anticipate how it might evolve in the future to offer better service to ALL of its citizens.

## Section 3: Workshop Format

<sup>15</sup> US Census Bureau, 2014, “Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2013,”

<http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

<sup>16</sup> US Census Bureau, 2014, “Annual Estimates of the Resident Population: April 1 2010 to July 2013,”

<http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

<sup>17</sup> Long Range Planning, 2013, “Year 2035 Transportation Plan,” <http://www.huntsvilleal.gov/Planning/mpo/docs/final2035plan.pdf>

<sup>18</sup> Baker, Michael, 2003, “Redstone Arsenal Through the Years,” US Army, [https://archive.org/details/redstone\\_years](https://archive.org/details/redstone_years)

<sup>19</sup> Guest Opinion, 2014, “Huntsville still the ‘Rocket City’ as NASA aims for Mars: guest opinion,” *Alabama Media Group*,

[http://www.al.com/opinion/index.ssf/2014/10/huntsville\\_still\\_the\\_rocket\\_ci.html](http://www.al.com/opinion/index.ssf/2014/10/huntsville_still_the_rocket_ci.html)

<sup>20</sup> Long Range Planning, 2013, “Year 2035 Transportation Plan,” <http://www.huntsvilleal.gov/Planning/mpo/docs/final2035plan.pdf>

<sup>21</sup> HuntsvilleAL.gov, 2014, “Restore our Roads,” <http://www.huntsvilleal.gov/restoreourroads/>

<sup>22</sup> Steve Doyle, 2014, “Huntsville ready to roll with \$383M in road upgrades over next 5 years, including 3 new Parkway overpasses,” [http://www.al.com/news/huntsville/index.ssf/2014/09/huntsville\\_ready\\_to\\_roll\\_with.html](http://www.al.com/news/huntsville/index.ssf/2014/09/huntsville_ready_to_roll_with.html)

The NCSU team developed an intensive one-day, consensus-driven workshop. The primary goals of the workshop were to reach consensus on transportation related goals for the comprehensive plan and identify performance measures associated with each goal as well identify actions which move the performance measure gauge. The workshop included presentations to all participants, small group discussions, and large group discussions. This format was developed to foster within-group consensus and between-group consensus during the larger discussions. The full agenda is included in Appendix D-1.

## Section 4: Workshop Approach

### 4.1 Workshop Preparation

Prior to the workshop, the NCSU team worked with Gary Toth, Senior Director of Transportation Initiatives at the Project for Public Spaces (PPS), to develop materials and establish the flow of the workshop. The NCSU team and the PPS team each developed a presentation. Dennis prepared an update of the current process of the comprehensive plan.

**Presentations:** The NCSU team developed a presentation on the Community Vision Metrics Resource, including definitions of performance measures and their role in a community vision process. Gary Toth prepared a presentation on performance measurement tools used around the country. For more detail on these presentations, see section 4.4.

**Performance Measures:** On July 15, 2014 Dennis Madsen led a focus group on the comprehensive transportation plan in order to receive input from local citizens on transportation issues. The transportation focus group developed a list of fourteen common issues (for a summary of this meeting, see Appendix D-2). The NCSU team first organized these issues into broad themes, then selected a list of candidate performance measures for each theme using the Community Vision Metrics Tool developed by the Federal Highway Administration. This initial list included 15-20 performance measures per theme. The NCSU team internally vetted this initial list, altering wording for clarity and simplifying technical language as necessary.

**Performance Measure Quality Criteria:** Prior to developing workshop materials, the NCSU team reviewed existing resources on performance measure quality to develop a compact list of performance measure quality criteria. Consistent themes in the literature were distilled into four criteria:

- **Understandable** – meaningful and easy to understand for general public and decision-makers alike
- **Available** – data supporting measure are tracked over time at a relevant geographic scale
- **Feasible** – data supporting measure do not entail significant costs and/or resources (i.e., advanced geographic information systems)
- **Relevant** – the measure is robustly linked to the outcome and change in the measure implies progress towards the identified goal

**Facilitation Strategy:** A Technology of Participation (ToP®) facilitation plan was developed in order to encourage participants to develop goal areas. Two worksheets were developed for each goal to assist groups in screening performance measures. Worksheets include the final list of performance measures for each goal, columns to score for each performance measure based on four indicator quality criteria, and relevant supporting information.

**Action Plan Exercise:** NCSU team developed a worksheet that would encourage participants to identify projects or policies that were likely to move a performance measure's gauge. This worksheet included the strategic goal identified and the key performance measure associated with that goal. It provided an area where participants could list actions (either projects or policies) associated with that goal, the person responsible for implementing that goal, key collaborators, timeframe, and resource considerations.

#### *4.2 Workshop Participants*

The workshop was attended by 21 participants, primarily technical staff from the Huntsville Area MPO. Four participants represented community interests, and seventeen represented other local government. Notably, most participants had a strong technical background, and community interests were less represented during this workshop.

#### *4.3 Morning Session I: Introductions and Overview of Planning Effort*

The workshop began with participant and team introductions. Participants were asked their name and position, involvement or interest with transportation planning for Huntsville, and expectations for the workshop. Immediately following introductions, Dennis Madsen presented a brief update of the most recent planning efforts initiated by the City of Huntsville and the Huntsville-area MPO, and introduced the work that would be completed over the course of the comprehensive plan update.

#### *4.4 Morning Session II: Overview of Performance Management*

Following the overview of the planning effort, Gary Toth presented an overview of the principles of performance measurement to workshop participants. The presentation highlighted differences between a traditional congestion metric, Level of Service, and other performance measures available that may capture a more complete picture of the transportation system. The presentation helped to establish the need for a wider array of performance measures. The presentation concluded with a detailed discussion of performance measures designed to target livability through case studies and national tools.

Following this presentation, Leigh Lane presented the *Community Vision Metrics* tool, with a brief history of the project and an overview of the database of performance measures. The presentation defined performance measures for the participants and described the importance of performance management in the planning process.

#### *4.5 Morning Session III: Visioning Exercise*

The visioning exercise consisted of five steps intended to enable the participants to reach consensus on 5-7 transportation goals for the comprehensive plan. Dennis Madsen organized participants into three groups such that a multi-disciplinary perspective was present at each group. For the first part of this exercise, Lane explained the consensus-building Technology of Participation (ToPs) method and asked a focus question: "What will a successful transportation system look like in 2024?" Working individually, participants were asked to write their responses. Then, working with their groups, participants were asked to write 8-10 of their best ideas on sheets of paper. The groups placed these sheets randomly on the sticky wall, then moved the sheets of paper on the wall to cluster ideas around similar intentions. Symbols were placed above the



clustered ideas to identify the different elements of the vision. Participants then named the clusters by replacing the symbols with a phrase that would reveal itself to be the clustered group's goal statement.

#### *4.6 Afternoon Session I: Metrics Screening Exercise*

After a short break for lunch, participants returned to their groups. Each group was assigned one to two goals and was provided with a list of potential measures (developed before the workshop). Participants also received a worksheet to evaluate the measures according to quality criteria developed by the NCSU team: Understandable, Available, Feasible, and Relevant. As part of this discussion, participants were encouraged to add any measures that might better serve the objectives of the goal assigned. After completing this discussion, participants were asked to select their four best measures, write the measure on a piece of paper, and post these to the sticky wall.

#### *4.7 Afternoon Session II: Prioritizing Measures*

Looking at the completed wall of performance measures, participants were given seven to ten dots to vote on the measures most important for measuring the success of the goal, placing only one dot per measure. At the end of this exercise, participants had developed a consensus list of performance measures. Following this vote, Lane directed participants through a quick focus conversation to reflect on the results.

#### *4.8 Afternoon Session III: Action Plan Exercise*

Participants were instructed to return to their groups and select three of the most highly-scoring measures from the previous exercise (see section 4.7). On a worksheet, participants listed projects or policies that would move the performance measure's gauge. The party responsible for implementing the policy/action was also listed, along with key collaborators and a reasonable timeframe for implementing the measure. Due to limited time remaining in the workshop only three performance measures were completed. The purpose of this exercise was to encourage participants to critically evaluate performance measures in light of the steps necessary to generate change.

#### *4.9 Afternoon Session IV: Workshop Conclusion*

Lane and Madsen provided final comments about the workshop and suggestions for next steps. A brief five-question survey was also distributed to all participants.

### **Section 5: Results**

The workshop resulted in three primary products: a list of seven goals associated with developing a successful transportation system in Huntsville, performance measure lists for each goal, and begin the process of identifying action items which can move the gauge on a couple of prioritized performance measures.

#### *5.1 Visioning Exercise*

Participants engaged in a dynamic clustering exercise in order to develop goal statements that could be used for the Huntsville Comprehensive plan. The focus question, "what will a successful transportation system look like in 2024?" was used to direct participant responses. These responses were placed on the sticky wall in a random order, and participants were asked to cluster similar responses together under a symbol. While it is difficult to display the results of a



dynamic exercise, Figure 9 (below) shows the results of the clustering activity. The goal statements that participants developed to replace symbols follows the image.

**Figure 9: Visioning Exercise Brainstorming**



The goals developed during this process are listed below:

- Goal 1: Provide an expanded greenway system for regional connectivity and convenience.
- Goal 2: Provide a sustainable and interconnected transportation system to enhance quality of life.
- Goal 3: Increase local (small-scale) multi-modal connectivity and access.
- Goal 4: Increase safety of transportation system for all users (of all ages)
- Goal 5: Create an environment that encourages increased pedestrian and mixed modes of transportation.
- Goal 6: Provide reliable and consistent multi-modal traveler information
- Goal 7: Provide convenient express transportation options b/w large intraregional destinations

## 5.2 Metrics Screening Exercise

An extensive list of performance measures were discussed and scored by workshop participants ( $n=57$ ). Quality scores accompany each performance measure; some include comments and/or changes in wording. For illustrative purposes, the worksheet for Goal 7 is presented in Table 11; the remaining goals are presented in Appendix D-3 (note that “NR” indicates “No Response”). Participants were told to use the criteria scoring section to frame discussion about the merits of each of the measures discussed; two of the three groups used symbols to score the performance measures. One group discussed performance measure according to the quality criteria but did not record text in the boxes. Once all the groups completed discussion of potential measures, they were asked to select their four best measures to present on the sticky wall. The measures participants chose for the sticky wall are highlighted in Table 11 and in Appendix D-3; in some cases, the measures changed slightly when participants rewrote the entry for the sticky wall.

**Table 11: Performance measures worksheet, Goal 7**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
HOV Lanes Miles	+	+	+	+	NR	
HOV volume	+	+	+	+	NR	
Headway on BRT	+	+	+	+	NR	Don't use term headway
Travel time comparison b/w HOV/BRT and passenger	+	+	-	+	NR	“average commute time by X (mode)”
Average distance to high speed rail stop from home	+	+	-	+	NR	% of population living w/in ½ mi of a transit stop w/ frequent transit service
Annual revenue for BRT and rail	+	+	+	+	NR	
Year over Year (YoY) revenue for BRT and rail	+	+	+	+	NR	
Percentage of transportation costs supported by local funding, public-private and/or other	+	+	+	+	NR	Less dependence on government funding to make changes

\*U: Understandable; A: Available; F: Feasible; R: Relevant

## 5.3 Prioritizing Measures

During the final exercise, participants were asked to return to the sticky wall and vote on performance measures that they thought were most informative and meaningful for measuring the success of the goals. The full results of this vote are included on the following page.

Goal 1: Providing an expanded greenway system for regional connectivity and convenience	
Number, Percentage of destinations with direct access to greenway (within 1/2 mile)	7
Number of amenities per mile (benches, shelters, restrooms, water fountains)	5
Greenway utilization rate	4
Continuity (number of distinct vs. connected links)	2

Goal 2: Provide a sustainable and interconnected transportation system to enhance the quality of life	
Walkscore (beta version)	7
Percentage of streets w/presence of benches, bike racks, lighting, frontage activity	6
Percentage of households living in core neighborhoods/gathering spots/nodes	3
Perception of neighborhood safety via survey	3
Percentage of population affiliated with chronic disease associated with inactivity and transportation pollution	2
Percentage of households with transportation costs equal or greater than 15% of household income (or greater than or equal to 45%)	2
Percentage of streets built as complete streets	2
Per capita Vehicle Miles Travelled (VMT)	2
Travel time reliability	2
Percentage children who walk/bike to school	1
Percentage streets with sidewalks/bike facilities of LOS A or B	1
Travel time by income group	-

Goal 3: Increase local (small-scale) multi-modal connectivity and access	
Percentage of road miles served by more than 1 mode of travel; break out- by specific nodes, by types of road classifications (infrastructure gap)	11
Percentage of transportation funds dedicated to enhancing accessibility across all modes.(funding gap)	11
Percentage of streets within 1000 feet of schools, social services, town centers, and retail	2
population living within 1/4 mile of transit stop	1
measure modal share for work commute	-

Goal 4: Increase safety of transportation system for all users (of all ages)	
Percentage of streets with speed limits incompatible with surrounding land use	4
Percentage of streets with sidewalks and bicycle facilities	4
Average number of per capita minutes of physical active travel per week –	1
No. of motor vehicle crashes/ fatalities	
Number of speeding violations annually	-

Goal 5: Create an environment that encourages increased pedestrian and mixed modes of transportation	
Percentage of population living within ½ mile of mixed use development	7
Percentage of streets with sidewalks and bicycle facilities	4
Average per capita minutes of physically active travel per week – No. of motor vehicle crashes/fatalities	1
Percentage of streets with trees/improved streetscapes	

Goal 6: Provide reliable and consistent multi-modal traveler information	
Website/app analytics (hits, mode split, etc.)	6
Survey results about awareness and use of traveler information sources	1
Average response time of emergency responders	-
Miles of regional roadway with variable message boards	-

Goal 7: Provide convenient express transportation options between large intraregional destinations	
Travel time comparisons (BRT/HOV vs. Passenger)	7
HOV Volume and BRT Rail Ridership	3
Annual Revenue (BRT/Rail)	2
Percentage of population within 1/2 mile of high speed rail stop	1

#### 5.4 Action Plan Exercise

Participants were instructed to select three highly-scoring measures from the previous prioritization exercise. Participants would then develop projects and policies that would move the gauge on those measures. Participants chose the following three measures to discuss:

- Percentage of road miles served by more than one mode - breakdown via mode and road classification (11 votes)
- Percentage of population living within 1/2 mile of mixed use development (7 votes)
- Percentage of transportation dollars dedicated to enhancing accessibility across all modes (11 votes)

An example of a completed worksheet is included below in Table 12 (“NR” indicates “No Response”). The worksheets for the remaining two performance measures are included in Appendix D-4.

**Table 12: Action Planning Worksheet, Goal 3**

Strategic goal	Performance measure			
Goal 3: Increase local (small-scale) multi-modal connectivity and access.	Percentage of transportation dollars dedicated to enhancing accessibility across all modes			
Actions: Projects or Policies	Responsible for implementing	Key Collaborators	Timeframe	Resource Considerations
Background: 10 year average federal/state/local budgets allocated for all modes--broken down: FTA, capacity, bike lanes/routes, sidewalks, greenways	Local MPO/ Planning	City finance/MPO	1 month	NR
Map out the gaps where sidewalks/transit/bike routes & lanes are missing	GIS	GIS	1 week	NR
Determine what funding is projected and what is needed to mind the gaps (i.e., local sources of funding)	Local MPO/Local planning	Local planning	1 month	NR
Set goals to implement projects...	Elected	Planning staff	open-ended	NR
Other comments				
Population = access to all modes. What \$\$ is dedicated to the modes to allow the public access? What \$\$ would be spent to get us to where the population has access?				

## Section 6: Workshop Assessment

The effectiveness of the workshop may be assessed in several ways. First, analysis of the worksheets provides some proxy for the discussion and critical engagement of participants. Second, survey results provided participants an opportunity to express their thoughts regarding the workshop.

### 6.1 Worksheet Analysis

Both worksheets provide a useful record of the process by which participants critically engaged with the process of selecting performance measures, and allowed participants to evaluate measures in several different ways.

Participants were asked to evaluate performance measures according to the four criteria developed by the NCSU team (Understandable, Available, Feasible, and Relevant). Comments left during this exercise provide evidence of the depth of discussion occurring, and identify several next steps and sensitive areas. Participants recognized that a website or phone application would be necessary before it would be possible to measure the effectiveness of the city's ability to provide reliable travel information. Participants also identified several areas that would require additional study in order to be clearly defined, such as the definition of 'bicycle facility' and a definition of 'headway' that would be understandable for a non-practitioner.



In the second worksheet, participants were asked to identify actions (policies and projects) which would move the performance measure gauge. In this exercise, participants chose two performance measures associated with the same goal (Goal 3). Time constraints prevented all of the performance measures for each goal from being discussed and critically evaluated to the same degree. However, the projects and policies identified for Goal 3 shows a great deal of variation: one group specified that four out of five projects/policies could be completed in one year or longer; another group identified projects/policies that could largely be implemented in less than one month. This discussion of timeframe to implementation would be a useful addition to future workshops and may help to direct participants to identify projects/policies in line with the group's current capacity. Also of note, all three of the performance measures completed during this exercise identified a diverse range of responsible parties and key collaborators, including the local council of governments, the planning department, and the city financial office. The diversity of responses reflects a deep level of engagement with issues of implementation. This fluid approach to developing actions at such an early stage may also be useful for participants to identify additional stakeholders for the coming planning efforts.

## 6.2 Survey Results

Detailed survey results are available in Appendix D-5 (note that "NR" indicates "No Response"). Responses from the survey distributed to the participants have been summarized below.

**Question 1:** What did you like about the workshop? (*Number of responses*)

- Engagement and interaction (9)
- Organization and content (5)
- Goal-oriented (2)

**Question 2:** What would you improve?

- No change suggested (5)
- Split into two days (2)
- Provide additional materials after workshop (2)
- Presentation formatting (1)
- Expand participation (1)

**Question 3:** What was the most interesting thing that you learned or experienced today?

- Amount of work accomplished (1)
- Workshop approach (4)
- Site-specific information (1)
- Group consensus (3)
- Workshop content (3)

**Question 4:** How will your work today inform and empower efforts to plan for the future of Huntsville?

- Ideas developed will be implemented in the planning process (2)
- Unsure (4)
- Higher level of engagement/new perspectives brought to planning process (6)
- Helpful for setting priorities (1)
- Better understanding of the planning process (1)

## Section 7: Conclusions and Discussion

### 7.1 Five Lessons Learned

The following points reflect lessons learned from the perspective of the NCSU team for this workshop. This information can be useful for crafting future workshops for similar audiences, as well as understanding how to effectively engage stakeholders in a meaningful process to identify performance measures reflective of plan goals.

#### **1. The choice of performance measures depends on the criteria used.**

Quality criteria, such as the measures developed by the NCSU team (Understandable, Available, Feasible, and Relevant) can be used to evaluate the measures during a separate exercise that helps to bring many common issues relevant to all measures to light, such as issues with data collection and establishing a baseline. However, also evaluating how well performance measures make progress toward particular goals provides an opportunity to identify how well performance measures support goals, and whether those goals will meaningfully convey the success of the plan. Both approaches help to identify concerns associated with implementing performance-based planning and programming, and may provide useful insight that will help planners shape that process. However, planners should remember that a plan's selected list of performance measures will vary greatly depending on the criteria used to evaluate the measures.

#### **2. Prioritization criteria may limit the transportation system to only a handful of paths to success.**

The sixth goal participants developed was to “provide reliable and consistent multi-modal transportation system.” When participants were asked to score the performance measures associated with this goal, only one measure received more than one vote: “website/app analytics (hits, mode split, etc.)” This narrow focus may provide an obstacle if the system is to achieve success in this goal area immediately, as no website or app currently exists. However, if it is important to develop these tools, this narrow focus may provide additional support and urgency to that project.

#### **3. A goal that is more clearly expressed will relate more directly to the success of the transportation system.**

The second goal participants developed was to “provide a sustainable and interconnected transportation system to enhance quality of life.” Participants struggled to identify only four or five measures that would satisfy the goal, in part because this goal is extremely broad. However, it will be difficult to clearly identify critical performance measures that can be used to support the goal without narrowing the goal's focus.

#### **4. Workshop participants overwhelmingly influence the performance measures chosen.**

In this workshop, as with other workshops, performance measures were chosen that reflect the values of the participants. Participants generally focused on bike/ped and transit; while these may be critical issues in the Huntsville area, they should be checked with the public and other members of the City and the MPO. If performance measures that are not representative of the concerns of the entire MPO, it will be very difficult to satisfy the demands of the public.



## **5. The process of developing performance measures alongside goals will lead to the development of more measurable goals.**

The workshop approach used in Huntsville demonstrated that performance measures and goals should be developed concurrently. If performance measures are chosen in the same process used to develop goals, planners will be able to select measures that directly correspond to goals. Establishing goals without considering the steps to implementation may result in a situation where planners are held accountable to a goal that cannot yet be measured.

### *7.2 Process Improvement*

Participants were asked to reflect on the performance measures according to two sets of criteria: the four criteria developed by the NCSU team (Understandable, Available, Feasible, and Relevant), and according to the measure's importance to each goal. The first exercise was completed on a worksheet, and the second was completed by voting on the sticky wall. Comments left by participants while performing the worksheet ranking exercise provides some evidence of the depth of discussion prompted during that exercise. The two approaches both provide useful information that can be used to inform future workshops; one may help to prioritize the group's immediate tasks, where the other may be used to facilitate detailed discussion on implementing the performance measure.

Unlike the other two workshops run by the NCSU team, in Huntsville, participants were asked to identify actions that would move the gauge on the performance measures developed. This approach was appropriate for the current phase of the Huntsville planning process, and will prepare the participants to develop actions as they move forward. However, the conversation became somewhat tangled with considerations associated with data collection and partner engagement. Prompting participants to separate the question of data collection has been something of a challenge throughout the process.

### Appendix D-1: Agenda

<b>Check In</b> 8:30am to 9:00am	Sign in and coffee
<b>Introductions</b> 9am to 9:45 am	Welcome by Dennis Madsen Introduce Leigh Lane and Gary Toth Participant Introductions
<b>Overview of Huntsville Comprehensive Plan</b> 9:45am to 10:00 am	Dennis Madsen to provide short presentation of Comprehensive Plan Effort
<b>Overview of Livability Performance Measures</b> 10:00am to 10:45 am	Gary Toth to present “Measure What Matters: State of the Art” Leigh Lane to present “Community Vision Metrics”.  10 minute break
<b>Visioning Exercise</b> 11:00am to 12:30pm	Participants will collaborate to identify 5 to 7 transportation goals for the Comprehensive Plan using.
<b>BREAK FOR LUNCH 12:30pm (box lunch provided)</b>	
<b>Metrics Screening Exercise</b> 1:00pm to 2:20pm	Participants will work in small groups to identify performance measures that will best measure success of accomplishing the goals.
<b>Prioritizing Measures</b> 2:20 to 3:00 (i.e. break)	Participants will vote on the most important measures to track the success of transportation goals for the Comprehensive Plan.
<b>Action Plan Exercise: Connecting Performance to Strategies</b> 3:00 pm to 4:00 pm	Participants will work in small groups to identify projects and policies that can be tracked for performance and implemented to achieve the goals.
<b>Wrap Up and Next Steps</b>	Leigh, Dennis, and Gary to provide some final comments about the workshop and ideas for next steps.

## Appendix D-2: Big Picture Transportation Focus Group Meeting Summary

### Meeting Summary

#### BIG Picture Transportation Focus Group

July 15, 2014

### Introduction

A brief summary of the purpose and scope of the BIG Picture comprehensive planning initiative was presented by Dennis Madsen, Manager of Urban and Long Range Planning. It was noted that addressing transportation issues will be an important part of the effort. As a result, the transportation focus group was established to provide an opportunity for dialogue and input with local citizens on these issues.

### Significant Transportation Issues

To begin the discussion, each attendee was asked to state briefly what they considered to be the most important transportation issue facing the Huntsville community. The responses included the following issues:

1. The need for alternative modes of transportation
2. Colocation of land uses and facilities
3. Public transportation
4. Regional transit system
5. Appropriately sized streets and sustainability of our roadway infrastructure
6. Growth and its impact on our transportation infrastructure
7. Need for alternative transportation options
8. Lack of transportation options
9. Need for updated engineering design standards which accommodate multi-modal transportation options and encourage better parking facility designs
10. Lack of walkability
11. Need for a cheap and comprehensive transit system
12. Narrow roads with trees located too close to the road
13. Connectivity
14. Planning for public transit

### Current Transit System Deficiencies

Participants were asked to list the problems or challenges which impact the effectiveness and limit the use of Huntsville's current transit system. The responses included the following issues:

1. Bus frequency and timing isn't convenient for typical work schedules
2. One hour wait times for buses are too long
3. The large geographic area of the city relative to our population makes it difficult to design an efficient system
4. The city's sprawling residential development patterns are difficult to serve

5. The system doesn't serve the airport
6. Transit stops lack supporting pedestrian infrastructure
7. Limited evening hours of operation particularly impact low income and aging residents

## Recommendations

The following ideas and suggestions for addressing various transportation issues in the community were noted:

### A. City Regulations

1. Regulations should be updated to encourage transit oriented development
2. Codes should be amended to require that buildings be brought close to the street with parking in the rear

### B. Pilot Projects

1. Initiate pilot multi-modal projects on corridors such as Holmes Avenue
2. Use Business Improvement Districts (BIDs) and similar tools to fund pilot projects
3. Consider Bus Rapid Transit (BRT) rather than more expensive modes as an appropriate option for Huntsville

### C. Allocation of Roadway Space

1. Revisit the allocation of road space between various modes; currently cars have the priority on almost all of our streets
2. Develop a comprehensive ranking of streets to determine priority users and appropriate design changes
3. Consider Copenhagen as a good model for allocating space to various modes
4. Reversible lanes should be considered along appropriate corridors

### D. Downtown parking

1. Install new meters which accept alternate payment methods
2. Consider removing all parking meters
3. Most attendees agree that there is sufficient parking downtown

## General Comments and Insights

### A. Speed and Safety

1. Speed is the number one predictor of accident severity
2. Raised intersections will help slow traffic and reduce accidents at key locations
3. Canopies of trees and trees in medians also help to slow traffic

*B. Traditional Car Culture*

1. Our traditional car culture presents a challenge as we plan for multiple modes of transportation
2. Cars will continue to be an important transportation option. We need to consider how to make them more sustainable
3. Need more carpooling and related park and ride lots

*C. Connectivity*

1. Need more connectivity to address the complaint that people often have to drive to reach places to bike or walk
2. Walkability in Huntsville is diminished due to the number of unconnected sidewalk segments
3. Comingling of uses is needed in all types of development
4. We should improve pedestrian infrastructure *before* initiating transit improvements

*D. Parking*

1. Local parking regulations require too many spaces and are not conducive to good urban design
2. Our regulations should encourage, rather than discourage, cooperative agreements and shared parking

*E. The Process*

The comprehensive planning effort will have failed if it results only in general policies and does not result in specific guidelines that are implementable by City staff and understandable to developers

### Appendix D-3: Metrics Screening Exercise

#### Goal 1: Provide an expanded greenway system for regional connectivity and convenience.

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
Greenway Utilization rate	NR	NR	NR	NR	NR	NR
# miles of GW	NR	NR	NR	NR	NR	NR
Continuity (# of distinct vs. connected links)	NR	NR	NR	NR	NR	NR
# of HH's w/ direct access (1/2 mile path distance)	NR	NR	NR	NR	NR	NR
LOS (vol/capacity) < width at minimum	NR	NR	NR	NR	NR	NR
# of incidents/ crime	NR	NR	NR	NR	NR	NR
Perception of safety (individual survey).	NR	NR	NR	NR	NR	NR
% city destinations (schools, civic, recreation, small retail, rest) accessible to GW	NR	NR	NR	NR	NR	NR
# & % of population that uses GW during year, and frequency	NR	NR	NR	NR	NR	NR
# bicycle (official!) connections (lakes, tracks, routes)	NR	NR	NR	NR	NR	NR
# Amenities/mile (benches, shelter, restrooms, water)	NR	NR	NR	NR	NR	NR

\*U: Understandable; A: Available; F: Feasible; R: Relevant

**Goal 2: Provide a sustainable and interconnected transportation system to enhance quality of life.**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
Percentage of HHs living in core neighborhoods/gathering spots/nodes	NR	NR	NR	NR	NR	NR
Travel time reliability	NR	NR	NR	NR	NR	NR
Walkscore (beta version)	NR	NR	NR	NR	NR	NR
% of children who walk/ bike to school	NR	NR	NR	NR	NR	NR
% population afflicted w/chronic disease related to physical inactivity	NR	NR	NR	NR	NR	NR
Perception of neighborhood safety via survey	NR	NR	NR	NR	NR	NR
Per capita Vehicle Miles Travelled (VMT)	NR	NR	NR	NR	NR	NR
Travel time by income group	NR	NR	NR	NR	NR	NR
% of streets w/ sidewalks/ bike facilities of LOS A & B	NR	NR	NR	NR	NR	NR
% of residential units located w/in ½ mi. of key commercial services/ mixed use/rec destinations	NR	NR	NR	NR	NR	NR
% of streets w/presence of benches, bike racks, lighting, frontage activity	NR	NR	NR	NR	NR	NR
% of HHs w/ transportation costs = or > 15% of HH income (or => 45%)	NR	NR	NR	NR	NR	NR
% of streets built as Complete Streets	NR	NR	NR	NR	NR	NR

\*U: Understandable; A: Available; F: Feasible; R: Relevant



**Goal 3: Increase local (small-scale) multi- model connectivity and access.**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
% of road miles served by more than 1 mode of travel; break out- by specific nodes, by types of road classifications (infrastructure gap)	NR	NR	NR	NR	NR	NR
Measure modal share for work commute (social gap)	NR	NR	NR	NR	NR	NR
Pop. living and working within ¼ mile of transit stop	NR	NR	NR	NR	NR	NR
% of sheets with sidewalks within 1000 feet of schools, social services, retail & town centers	NR	NR	NR	NR	NR	NR
Percent of employment locations within ½ mile of transit stop	NR	NR	NR	NR	NR	NR
% of transportation \$'s dedicated to enhancing accessibility across all modes.(funding gap)	NR	NR	NR	NR	NR	NR

\*U: Understandable; A: Available; F: Feasible; R: Relevant

**Goal 4: Increase safety of transportation system for all users (of all ages)**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
Percentage of streets with speed limits incompatible with surrounding land uses.	+	+	+	+	NR	NR
Number of speeding violations annually	+	+	+	+	NR	NR
Annual number of motor vehicle crashes, injuries and fatalities	+	+	+	+	NR	NR
Average number of per capita minutes of physical active travel per week	+	+	-	+	NR	NR
Percentage of streets with sidewalks & bicycle facilities	+	+	+	+	NR	NR

\*U: Understandable; A: Available; F: Feasible; R: Relevant

**Goal 5: Create an environment that encourages increased pedestrian and mixed modes of transportation.**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
Percentage of children that walk or bike to school	+	+	?	+	NR	Increase percentage, advocate for the allowance of bike uses
Percentage of streets with trees/improved streetscapes	+	+	+	+	NR	
Percentage of streets with sidewalks and...	+	+	+	+	NR	
bicycle facilities	?	+	+	+	NR	Bicycle facility should be clearly defined
Per capita annual Vehicle Miles Travelled (VMT)	?	+	+	+	NR	Clearly define Vehicle Miles Travelled (VMT), and how it relates to goal per activity - rec., shopping...
Percentage of population living within ½ mile of mixed use development	+	+	+	+	NR	
Average per capita minutes of physically active travel per week	+	+	-	+	NR	

\*U: Understandable; A: Available; F: Feasible; R: Relevant

**Goal 6: Provide reliable and consistent multi-modal traveler information**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
"Hits" to regional traveler information website	+	+	?	+	NR	Would be available if website existed.
Modal split analytics from T.I. Website	+	+	+	+	NR	Would be available if website existed.
No. of downloads of travel information phone app	+	+	+	+	NR	Would be available if app existed.
Miles of regional roadway with variable message boards	+	+	+	+	NR	
No. of calls to "511" Traveler information number	+	+	+	+	NR	Would be available if no. existed
Average response time for emergency responders	+	+	+	+	NR	
Survey results (public awareness/use of various regional traveler information sources)	+	+	-	+	NR	

\*U: Understandable; A: Available; F: Feasible; R: Relevant

**Goal 7: Provide convenient express transportation options b/w large intraregional destinations**

Performance Measures	Criteria Scores (+ positive, ? neutral, - negative)					Comments
	U*	A*	F*	R*	Score	
HOV Lanes Miles	+	+	+	+	NR	
HOV volume	+	+	+	+	NR	
Headway on BRT	+	+	+	+	NR	Don't use term headway
Travel time comparison b/w HOV/BRT and passenger	+	+	-	+	NR	"average commute time by X (mode)"
Average distance to high speed rail stop from home	+	+	-	+	NR	% of population living w/in 1/4 mi of a transit stop w/ frequent transit service
Annual revenue for BRT and rail	+	+	+	+	NR	
Revenue for BRT and rail	+	+	+	+	NR	
Percentage of transportation costs supported by local funding, public-private and/or other	+	+	+	+	NR	Less dependence on government funding to make changes

\*U: Understandable; A: Available; F: Feasible; R: Relevant

# Appendix D-4: Action Plan Exercise

Strategic goal	Performance measure			
Goal 3: Increase local (small-scale) multi-modal connectivity and access.	Percentage of road miles served by more than one mode - breakdown via mode and road classification			
Actions: Projects or Policies	Responsible for implementing	Key Collaborators	Timeframe	Resource Considerations
Inventory of ROW and characteristics	City of Huntsville Engineering & GIS	Consultants and students as needed	1 year	NR
Create maps for each individual mode, identify gaps and LOS by mode, then act to improve	City of Huntsville Engineering & GIS	Citizens, Planning	1-3 years	NR
Prioritize users on every link	Planning, engineering	Citizens, consultants	1-3 years	NR
Consider classification system, update as necessary (ex-transect/place-based style), reapply to all facilities	Engineering, planning	Citizens, Planning	1-3 years	NR
Identify funding sources for Complete Streets retrofits	NR	NR	immediately	NR
Identify priorities and pilot projects for front implementation (especially "low-hanging fruit")	Engineering, planning, etc.	Neighborhood association, campuses, businesses along defined corridors	3-5 years	NR
Update & approve urban design & engineering standards for "default" Complete Streets implementation	City of Huntsville Engineering & GIS	Consultants as needed	1-3 years	NR

Strategic goal	Performance measure			
Goal 5: Create an environment that encourages increased pedestrian and mixed modes of transportation.	Percentage of population living within 1/2 mile of mixed use development			
Actions: Projects or Policies	Responsible for implementing	Key Collaborators	Timeframe	Resource Considerations
Use GIS to analyze the existing conditions of residential development	COH/GIS	TARCOG	NR	NR
Establish target mixed-use areas prime for redevelopment	Planning	Development community	NR	NR
Incentivize the creation of mixed use nodes--infrastructure, etc.	COH/Economic Development	COH/Residents	NR	NR
Introduce new zoning options that allow flexibility for redevelopment	Planning	TARCOG	NR	NR

Strategic goal	Performance measure			
Goal 3: Increase local (small-scale) multi-modal connectivity and access.	Percentage of transportation dollars dedicated to enhancing accessibility across all modes			
Actions: Projects or Policies	Responsible for implementing	Key Collaborators	Timeframe	Resource Considerations
Background: 10-year average federal/state/local budgets allocated for all modes--broken down: FTA, capacity, bike lanes/routes, sidewalks, greenways	Local MPO/ Planning	City finance/MPO	1 month	NR
Map out the gaps where sidewalks/transit/bike routes & lanes are missing	GIS	GIS	1 week	NR
Determine what funding is projected and what is needed to mind the gaps (i.e., local sources of funding)	Local MPO/Local planning	Local planning	1 month	NR
Set goals to implement projects...	Elected	Planning staff	open-ended	NR
Other comments				
Population = access to all modes. What \$\$ is dedicated to the modes to allow the public access? What \$\$ would be spent to get us to where the population has access?				

# Appendix D-5: Survey Results

Participant	What did you like about the workshop?	What would you improve?	What was the most interesting thing that you learned or experienced today?	How has your work today contributed to making Huntsville's transportation system better?
1	I liked the interaction of each exercise and the switching of goals to each groups.	Workshop was great.	How intense the workshop was; but very informative.	By giving my opinions and discussing in depth the steps it would take to briefly create performance measures.
2	Loved the participatory nature of the workshop. Also the facilitator was well-versed in the topic and kept things moving along.	It's a lot for a day but I don't think it would've been as valuable if broken up over days.	The non-traditional process for planning was extremely cool!	I felt like I contributed to Huntsville's future transportation network in some way.
3	Interaction with other participants	LONG DAY. SHORTEN & BREAK INTO 2 HALF-DAYS	That the city of Huntsville is considering "livability" in transportation planning process.	By bringing a traffic engineering influence to the transportation planning process.
4	I like the use of the group exercises and the sticky wall	Give us some more info after class of what other cities/states are doing on livability.	Pretty much as a group we all have the same goals for transportation in Huntsville.	Working with other professionals and getting their ideas and why they are thinking the way they are. Having performance measures helps justify your decisions.
5	Intensive	Nothing	Lots of innovative performance measures?	Different throughout process...goal to performance measure
6	Being invited to participate in the first place. Discussion of state-of-the-practice; art research, and how it could apply to Huntsville.	Need more people to participate, especially citizens; policy makers. Also more definition of goals, objectives, PMs, strategies, etc.	Sticky board, general collaboration techniques	Don't know yet, but hopefully providing additional legitimacy since I don't work directly for the city.

Participant	What did you like about the workshop?	What would you improve?	What was the most interesting thing that you learned or experienced today?	How has your work today contributed to making Huntsville's transportation system better?
7	The interactive group exercises	Break up into 2-day event- a straight 8-hour session on this subject is exhausting.	There is a broad consensus on creating alternatives- in travel modes as well as congestion management solutions other than simply widening roads.	The policies and actions discussed were today will help us focus on priorities for the BIG Picture, which is important because transportation is such a broad subject.
8	Very engaging and thought processing. Very flexible for most.	Nothing	People from different parts of the city, with different backgrounds, all want the same thing-good quality of life!	I hope I was able to add to the conversation of good transportation option in the picture???
9	I liked the process- beginning w/goals/successes and working it out.	I have no suggested improvements	The process- I liked working this way	Not sure yet...
10	Different perspectives and diversity of opinions and reasoning.	NR	New strategy and thinking of reducing traffic congestion by better planning and reduced paving *context-sensitive transportation planning*	Understanding the forward-looking strategy.
11	Diversity of attendees/ Encouragement for engagement	Power Point presentation at the beginning- too small to read, too much info per page	Different perspectives on some issues- commitment of city to quality of life- by design.	Hopefully, ideas for practical implementation; development of concept
12	Enjoyed the diverse group mix as we discussed concerns as we plan for the future of our entire city.	NR	That a reusable/movable sticky board is available on the market. It really helped to move the day along with ease to push and move items.	Hopefully, all the ideas developed will be incorporated into the fourth coming comp plan. Better, would be if money for these ideas was in place to implement.



## APPENDIX E: ASHEVILLE, NORTH CAROLINA WORKSHOP

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### Summary

On September 26<sup>th</sup>, 2014, a team from North Carolina State University (NCSU) hosted a workshop in Asheville, North Carolina to assist the French Broad River Metropolitan Planning Organization (MPO) develop performance measures to be used for the MPO's Metropolitan Transportation Plan (MTP). The NCSU team sought to assist the MPO in selecting performance measures that would satisfy the goals, action items, objectives, and vision developed by the Executive Committee Task Force. The workshop itself is funded by the Southeastern Transportation Research, Innovation, Development and Education (STRIDE) Center at the University of Florida, and leverages the Federal Highway Administration (FHWA) Community Vision Metrics tool to identify context-specific livability performance measures. This report summarizes the site context, planning context, outreach approach, outcomes, workshop assessment, and reflections on lessons learned.

## Section 1: Site Context

Asheville is the county seat of Buncombe County in western North Carolina, located on the French Broad River. The population of the county is over 240,000, and is widely known for its diverse cultural offerings, many breweries, and healthcare facilities. The top three employers include Memorial Mission Hospital, the Buncombe County Board of Education, and Ingles Market (which is headquartered in nearby Black Mountain, North Carolina). Many in the area are employed in health care, and food and beverage; many are also employed in tourism-related industries such as accommodation.<sup>23</sup> The French Broad River struggles with a large proportion of inbound commuters, and with funding constraints familiar to much of the nation. In September, the City of Asheville received a \$14.6M TIGER grant for the East of the Riverway Multimodal Network Project, a six-mile network of pedestrian, bicycle, roadway, and streetscape improvements.<sup>24</sup> Despite funding constraints, community residents are committed to improving multi-modal transportation facilities. This context provides an opportunity to test performance measures in an area that remains deeply committed to many modes of transportation.

## Section 2: Planning Context

The MPO chose to initiate use of performance measures in order to support projects that reflected the interests of constituents and to comply with requirements included in MAP-21 transportation authorization. In January of 2012, the Modeling and Data Workgroup began work on adjusting the travel demand model to be used in the area's updated MTP. Surveys conducted over the course of this work show that households in the area's average trip length is shorter than would be suggested by the National Highway Travel Survey;<sup>25</sup> this and other data will likely lead to a number of revisions to future land use and level of service calculations in the revised plan. In 2014, the Technical Coordinating Committee, the Technical Advisory Community, and the Community Advisory Committee, and Executive Committee Task Force have been actively engaged with developing a broad set of goals that will reflect the vision of the committee. As of this writing, the eight goals developed include the following:

1. Improve Multi-Modal and Non-Motorized Transportation Options
2. Improve Safety
3. Address Congestion and Bottlenecks (Trip Predictability)
4. Improve Public Transit Options
5. Improve and Expand Community & Public Involvement
6. Ensure Changes Respect Our Unique Places & Environments
7. Improve and Develop Planning Tools
8. Seek Ways to Maintain And Improve Safe Freight Movement Within And Through The Region

<sup>23</sup> "Top 25 Employers by NC County Reports," <http://www.thrivenc.com/accessnc/business>

<sup>24</sup> "U.S. Department of Transportation Announces \$14.6 Million TIGER 2014 Grant for Asheville's East of the Riverway Multimodal Network Project," USDOT, September 12, 2014, <http://www.dot.gov/briefing-room/us-department-transportation-announces-146-million-tiger-2014-grant-asheville%E2%80%99s-east>

<sup>25</sup> "FBRMPO Regional Household Travel Survey Results," Leta Huntsinger, 2014, <http://fbrmpo.org/wp-content/uploads/2014/01/FBRMPO-Regional-Household-Travel-Survey-Results.pdf>

The team from NCSU interfaced with the planning effort at this stage, taking the eight agreed-upon goals as given (for the document on these goals, see Appendix E-1), and developing a one-day (8-hour) workshop focused on integrating performance management with these goals.

### Section 3: Workshop Format

The NCSU developed an intensive one-day, consensus-driven workshop. The primary objective of the workshop was to reach initial consensus on a list of performance measures associated with each goal, link performance measures with actions to identify additional performance measures. The workshop included a presentation on livability performance measures to help frame the importance and role of measures as part of the planning process. Next, small group hands-on exercises were conducted, followed by large group consensus-building discussions. The workshop culminated with a mapping exercise to illustrate how performance measures link to both goals and actions, and identify areas not well-measured by chosen performance measures. At the close of the workshop, participants were asked to vote for the most important performance measures to inform project prioritization as part of the planning process. The full agenda is included in Appendix E-2.

### Section 4: Workshop Summary

#### *4.1 Workshop Preparation*

Prior to the workshop, the NCSU team met with Paul Black, Director of the French Broad River MPO, to develop materials and establish the flow of the workshop. The NCSU group developed a presentation and designed two exercises: a two-stage process to screen a set of pre-selected performance measures, and a mapping process to ensure that these measures related back to action items. Preparation for each of these activities is described below:

**Presentation:** The NCSU team prepared a two-part overview presentation of livability performance measures (see section 4.4 below).

**Performance Measures:** The NCSU team first selected a list of candidate performance measures for each goal using the Community Vision Metrics Tool developed by the Federal Highway Administration. This initial list included 15-20 performance measures per goal. The NCSU team internally vetted this initial list, altering wording for clarity and simplifying technical language as necessary. Finally, worksheets were developed for each goal to assist groups in screening performance measures. Worksheets include the final list of performance measures for each goal, columns to score for each performance measure based on four indicator quality criteria (discussed in Section 4.6), and relevant supporting information. At the time of the workshop, the NCSU team provided a sticky wall that could be used to list both the goals and corresponding measures. Along the top of the wall, all eight goals were listed. Workshop participants were asked to write performance measures on paper to be placed under each measure's corresponding goal.

**Implementation Exercise:** The NCSU team developed a worksheet to be used after participants selected performance measures for the goals. The purpose of the worksheet was to review action items, and lead to the development of new measures that could be added to the sticky wall. As part of the implementation exercise, the NCSU team would ask participants to vote on

performance measures that they thought were most important for prioritizing projects in the planning process. A large sticky wall was hung from the wall of the workshop room.

#### 4.2 Workshop Participants

The workshop was attended by 13 participants representing many different interests in regional transportation. Planners from NCDOT, the French Broad River MPO, Land of Sky Regional Council, the City of Asheville, Henderson County, and Safe Routes to School were among those present. Notably, most participants had a strong technical background, and community interests were not as strongly represented as in other workshops.

#### 4.3 Morning Session I: Introductions and Overview of Planning Effort

The workshop began with participant and team introductions. Immediately following introductions, Paul Black presented a brief update of the most recent planning efforts completed by the French Broad River MPO. Almost all of the participants at the workshop had been involved in these efforts, so this update consisted primarily of recent minor changes resulting from recent public involvement activities and coordination with the Citizen's Advisory Committee.

#### 4.4 Morning Session II: Overview of Performance Management

The first part of the presentation included information on broad national goals included in MAP-21, the most recent federal transportation legislation to address performance measures; it also addressed changes between these goals and planning factors required in previous legislation. This part of the presentation focused on providing an overview of performance-based planning and programming (PBPP), as described in recent FHWA publication, *Model Long-Range Transportation Plans: A Guide for Incorporating Performance-Based Planning*. The publication presented several case studies of states and MPOs incorporating a performance-based approach; the team selected case studies that illustrated how performance measures could be mapped to national goals, criteria that could be used to select performance measures, how performance measures could be used in weighting and scoring, and the difference between performance targets and performance trends. The second half of the presentation focused on the use of performance measures designed to target livability, and included both tools and case studies. The presentation concluded with a discussion of the *Community Vision Metrics* tool and other resources (a complete list is included in Appendix E-3).

#### 4.5 Morning Session III: Initial Screening of Performance Measures

The morning session concluded with the first group exercise. The NCSU team first assigned participants to one of four groups, based on their role in the planning process. Groups were assigned to maximize the breadth of expertise and knowledge within each group. Each group was assigned two goals and given performance measure worksheets for each assigned goal. The groups met around large tables to foster discussion, and were facilitated by someone from either the NCSU team or from the French Broad River MPO. Groups were asked to discuss their goal and associated objective, provide high-level reactions to the performance measures listed on the goal worksheet, and create a list of performance measures that would meet goal areas and suggested criteria. Following initial high-level group discussions on assigned performance measures, the NCSU team presented criteria that may be used to assess the quality of specific measures. The NCSU team integrated other performance criteria with other quality criteria developed for environmental health indicators and distilled the larger set into four criteria:

Understandable, Available, Feasible, and Relevant. After completing the worksheets, participants were asked to select their four to five best performance measures and post these on the sticky wall. Each group provided a short explanation of the rationale for selecting their performance measures. After this exercise, the workshop adjourned for lunch off-site.

#### *4.7 Afternoon Session I: Implementation Exercise*

After completing the previous exercise, each group was assigned two goal areas and asked whether the performance measure listed corresponded to the action items identified previously in the planning process. Each group received a worksheet that listed action items alongside the corresponding goal. Participants added the new measures to the corresponding goals on the sticky wall. Unfortunately, due to time constraints, this exercise was not completed for goals 5 and 7. Goals 2, 3, and 4 were reviewed, but no new measures were identified.

#### *4.8 Afternoon Session II: Performance Measures for Project Prioritization*

After making small additions to the performance measures, participants were asked to vote by placing a dot on the performance measures they thought were most important for project prioritization. The intent of this exercise was not necessarily to rank performance measures, but to get a sense of which metrics were critical to include as evaluation criteria for the prioritizing projects for the MTP.

#### *4.9 Afternoon Session III: Workshop conclusion*

At the conclusion of the scoring exercise, a brief five-question survey was distributed to all workshop participants and concluding comments were made encouraging participants to continue to explore resources as they move forward in the MTP process.

### **Section 5: Results**

The workshop resulted in three primary products: initial performance measure lists associated with each goal, revised and/or new performance measures specifically mapped to actions associated with each goal, and a list of the most important measures for project prioritization. The results of the three exercises are summarized in the tables on the following pages.

#### *5.1 Performance measure lists*

An extensive list of performance measures was developed, reviewed, and modified by workshop participants. Starting with a list of 89 suggested performance measures taken from Community Vision Metrics Tool,<sup>26</sup> participants developed a list of 44 performance measures that corresponded to each of the goal areas. The performance measures provided to participants for the first goal area are listed and numbered in Table 13. Figure 10 (on the following page) shows the sticky wall after performance measures were chosen for each exercise. The remaining goals, with each goal's suggested performance measures, and participants' chosen measures and changes, are presented in Appendix E-4.

<sup>26</sup> Community Vision Metrics, available at <http://www.planningcommunities.com/communityvisionmetrics/>



**Table 13: Potential Performance Measures, Goal 1**

Goal 1: Improve multi-modal and non-motorized transportation options
<ol style="list-style-type: none"> <li>1. Miles of sidewalks, bike lanes and greenways per capita</li> <li>2. Bike path utilization rates</li> <li>3. Sidewalk utilization rates</li> <li>4. Modal share for work commute</li> <li>5. Modal share for school travel</li> <li>6. Annual number of bike/ped injuries and fatalities</li> <li>7. Number participating in bicycle program or event.</li> <li>8. Percent of state bike routes with paved shoulders.</li> <li>9. Number of schools, universities and colleges participating in pedestrian and bicycle safety education/encouragement programs.</li> <li>10. Percent of signalized intersections with pedestrian crosswalks and crossing signals.</li> <li>11. Percent of roads served by more than one mode of travel.</li> <li>12. Percentage of eligible roadway projects built as Complete Streets</li> <li>13. Percent of streets with presence of benches, shade trees, bike racks, good lighting, flower pots, etc. which make non-motorized travel more pleasant.</li> <li>14. % funding for non-motorized transportation infrastructure compared to total transportation funding.</li> <li>15. % of non-motorized transportation infrastructure in state of good repair (determined by infrastructure health assessments)</li> <li>16. Percent of transit and rail hubs with complete access amenities for bike/ped.</li> <li>17. Percentage of population within a ½ mile walk (along pedestrian network) of recreational destinations, including public parks</li> <li>18. Percentage of children that walk or bike to school</li> <li>19. Percentage of population that walks or bikes for health purposes</li> <li>20. Percentage of residents living in walkable neighborhoods</li> </ol>

**Figure 10: Performance measure lists**



## 5.2 Implementation Exercise

Table 14 (on the following page) shows an example of the mapping exercise conducted during implementation. Participants were asked to identify which measures mapped to actions associated with certain goal areas and whether new measures were necessary to support upon the action item. The exercise revealed that certain actions might be more strongly associated with other goal areas, and began a gap analysis on action items not well mapped to participants' performance measures. Again, because of time constraints, this exercise was not completed for goals 5 and 7. Goals 2, 3, and 4 were reviewed, but no new measures were identified. This exercise resulted in new measures for goals 1 and 6. A transcript of the worksheets in their entirety is included in Appendix E-5 (note that "NR" indicates "No response").



**Table 14: Implementation exercise results**

GOAL 1: IMPROVE MULTI-MODAL AND NON-MOTORIZED TRANSPORTATION OPTIONS		
ADDRESS FUNDING FOR NON-MOTORIZED TRANSPORTATION		
Action	Current Measure	New Measure
Develop bike/ped project list that are eligible for highway safety improvement program (HSIP) funds based on crash data work with regional traffic engineer to provide initial ROI and advocate for projects to elevate to the state safety engineer.	<ul style="list-style-type: none"> <li>Decrease crash rates (Goal 2);</li> <li>Decrease crash rates in low-income/minority communities (Goal 2);</li> <li>Percentage signalized intersections with pedestrian crosswalks and signals;</li> <li>Miles of multi-modal facilities;</li> <li>All safety measures (if \$\$ can be used for bike/ped) (Goal 2)</li> </ul>	<ul style="list-style-type: none"> <li>Number of potential projects eligible for HSIP (is bike/ped eligible for HSIP?)</li> </ul>

### 5.3 Performance Measures for Prioritization Exercise

During the final exercise, participants were asked to return to the sticky wall, which contained performance measures developed over both of the previous exercises. Participants were given stickers and instructions to place the stickers on performance measures that are important for project prioritization. A photo of the sticky wall with the results of this exercise are displayed in Figure 11.

**Figure 11: Sticky wall with votes on performance measures for prioritization**



The full results of this vote are included in Appendix E-6. Performance measures that one or more participants found important for prioritization are included on the following page.

### **Goal 1: Improve multi-modal and non-motorized transportation options**

- Miles of multi-modal facility and connectivity metric
- Dollars funding for non-motorized transport vs entire funding
- Number of walkable neighborhoods
- Percentage signalized intersections with pedestrian crosswalks and signals
- Percent eligible roadway projects as Complete Streets
- Mode share metric

### **Goal 2: Improve safety**

- Decrease annual number of motor vehicle and bike/ped injuries and fatalities
- Increase number of facilities complying with ADA
- Increase percentage of signalized intersections in a corridor with ped crossings and signals
- Increase percentage of streets with speed limits and other road characteristics compatible with surrounding land uses

### **Goal 3: Address congestion and bottlenecks (trip predictability)**

- Multi-modal LOS
- Average travel commute times to work
- Network connectivity/redundancy
- Travel time reliability and info availability

### **Goal 4: Improve public transit options**

- Increase percentage of population within 1/2 mile of frequent transit service (what is 'frequent?')
- Increase employment locations served by transit
- Increase annual public transit passenger miles per capita
- Increase local funding for transit (public and private dollars)

### **Goal 5: Improve and expand community and public involvement**

- Increase meaningful public input into controversial projects
- Projects reflective of community input
- Increase in outreach to groups representing under-represented populations
- Increase in number of people participating in public involvement events

### **Goal 6: Ensure changes respect our unique places and environments**

- Context-sensitivity metric (TBD)
- Combined housing and transportation costs
- Economic metric (TBD)

### **Goal 7: Improve and develop planning tools**

- Up to date travel behaving data
- Back-test model at beginning of model cycle

### **Goal 8: Seek ways to maintain and improve safe freight movement within and through the region**

- Freight incidents
- Travel time to essential markets
- Number of enterprises "last mile"

## Section 6: Workshop Assessment

The effectiveness of the workshop can be measured in several ways. First, evaluation of the performance measures selected at each stage of the process (such as the changes made or their use in gap analysis) provides a useful record of the discussions that occurred among participants. Second, the survey results provided participants an opportunity to express their thoughts regarding the workshop.

### 6.1 Worksheet analysis

While it is difficult to evaluate the effectiveness of the performance measures chosen by the NCSU team, comments and changes made provide a proxy for the depth of the discussions within each group. For a complete list of these changes, see Appendix E-4. In total, groups were instructed to select only four or five measures per goal, and selected 26 suggested measures and developed 18 new measures. During the implementation exercise, participants identified 10 additional measures that would better track the action items. The number of new measures, and comments made as participants discussed the exercise, suggests that participants understood the gap analysis exercise and that projects should connect to goals through measures.

### 6.2 Survey results

Detailed survey results are available in Appendix E-7 (note that “NR” indicates “No Response”). Responses from the survey distributed to participants have been summarized below:

**Question 1:** What did you like about the workshop? (*Number of responses*)

- Engagement and interaction (4)
- Goal-oriented (4)
- Organization and content (3)

**Question 2:** What would you improve?

- Reduce sedentary time (2)
- Make content more specific to Asheville area (2)
- Improve organization of the process (2)
- Improve guidance on exercises (1)

**Question 3:** What was the most interesting thing that you learned or experienced today?

- Process of aligning goals and performance measures (5)
- Information provided (3)
- Engagement and cooperation (2)

**Question 4:** How will your work today inform and empower efforts to plan for the future of Greenville?

- Measures will be used in development of MTP (4)
- Will generally reinforce the process (2)
- Reevaluate current processes (2)
- Process of aligning goals and performance measures (1)
- Save time (1)

## Section 7: Conclusions and Discussion

### 7.1 Lessons Learned

The following points reflect lessons learned from the perspective of the NCSU team for this workshop. This information can be useful for crafting future workshops for similar audiences as well as understanding how to effectively engage stakeholders in a meaningful process to identify performance measures reflective of plan goals, objectives and actions.

#### 1. Performance measurement resonates with stakeholders and supports engagement.

Stakeholders felt engaged throughout the process and were very receptive to the principles of performance measurement. Further, comments provided on performance measure worksheets indicate that thorough discussions took place about specific measures. Further, participants noted that the workshop provided excellent engagement opportunities.

#### 2. Discussing data availability, units and targets may need to be handled separately or addressed ahead of time to better prepare participants.

Participants often began evaluating each performance measure by discussing the availability of data and other issues related to implementing a performance-based plan. While availability of data is a key criterion in selecting a plan's performance measure, many of these issues are common to many performance measures and could be discussed in advance. For example, many of the changes made from the suggested list of performance measures reflected participants' concerns about data collection, reporting the performance measures, and establishing a baseline. One possible approach is to work with the local technical advisors to prepare a short description of each potential measure including potential data sources for the measure. This would take upfront time, but may provide critical input for participants to be better able to select the best performance measures. Other issues identified by some participants included data collection, the process of establishing a baseline, and the desirability of setting numeral targets or trend targets. It is natural for participants to want to discuss the direction or desired target for a specific metric; however, this is not necessarily important to include during the initial selection of performance measures. It is, however, important to manage participant expectations and explain that target setting can be undertaken once a needs assessment is complete and baseline data is collected for the prospective measure. This process creates another iteration for evaluating the credibility of each measure for tracking the success of plan actions to achieve plan goals and objectives.

#### 3. Performance measures enable objective communication between stakeholder groups.

As evidenced by the discussions generated amongst participants with diverse backgrounds, experiences, and knowledge bases, performance measures may provide an avenue for objective discussions about specific issues in the context of larger goals. Participants noted that the process encouraged both engagement and cooperation, and comments left on the worksheets showed that participants were able to identify potential patterns and collaborators across sectors in discussions specific performance measures.

#### 4. Outcome performance measures are different than process performance measures but both are important.

Several of the participants commented that several of the performance measures were not process-oriented enough for the actions identified by the French Broad River. Process measures



are not necessarily included in the Community Vision Metrics Tool, and are not institutionalized in performance-based planning and programming to the same extent as ‘outcome’ or ‘product’ measures. This feedback highlights the importance of explaining the role of different types of measures (outcomes, output, inputs and process) to workshop participants. The focus of the workshop was clearly on outcome metrics; however, the FBR realized that many of their action items are process-related and even one of their goals was process-related (Goal 7: Improve and Develop Planning Tools). The workshop highlighted to the participants that they may want to remove goal 7 from the MTP and include it as a process goal for their Unified Program Work Plan (UPWP). They also discussed the need to identify other process metrics to manage staff accountability to the action items.

#### **5. Linking performance measures to goals as part of a visioning effort is important for “getting the goal statement right”.**

Once participants completed the selection of performance measures exercise they began to reflect on the goals they developed prior to the workshop. As described above, the process-oriented goal 7 was brought into question with regards to keeping it as a MTP goal or as a UPWP goal. The discussion of performance measures highlighted this important critique. In addition, goal 6 (Ensure Changes Respect Our Unique Places & Environments) became challenging for participants to narrow down a long list of performance measures because they discovered that the goal was overarching in nature and not specific enough to be able to identify the best performance measures. This points out the valuable role performance measures discussions lend to the visioning process, because they validate the merits and credibility of the goal as well as creates accountability towards meeting the goal. If it is impossible to measure how well actions are accomplishing a goal, then perhaps the goal is not really what you are trying to accomplish.

#### **6. Prioritizing performance measures always reflect the values of the workshop participants.**

Prioritizing performance measures often reflects the values of the participants present. At this particular workshop, participants generally agreed that performance measures that focus on bike/ped and transit should be used for project prioritization. This may be representative of the concerns of the MPO and its constituents, but should be checked with other MPO members. Other workshops have had significantly different priorities; this may be representative of the area or simply reflect who was in the room. If performance measures are not included in project prioritization criteria, it will be impossible to satisfy all the goals of the MPO.

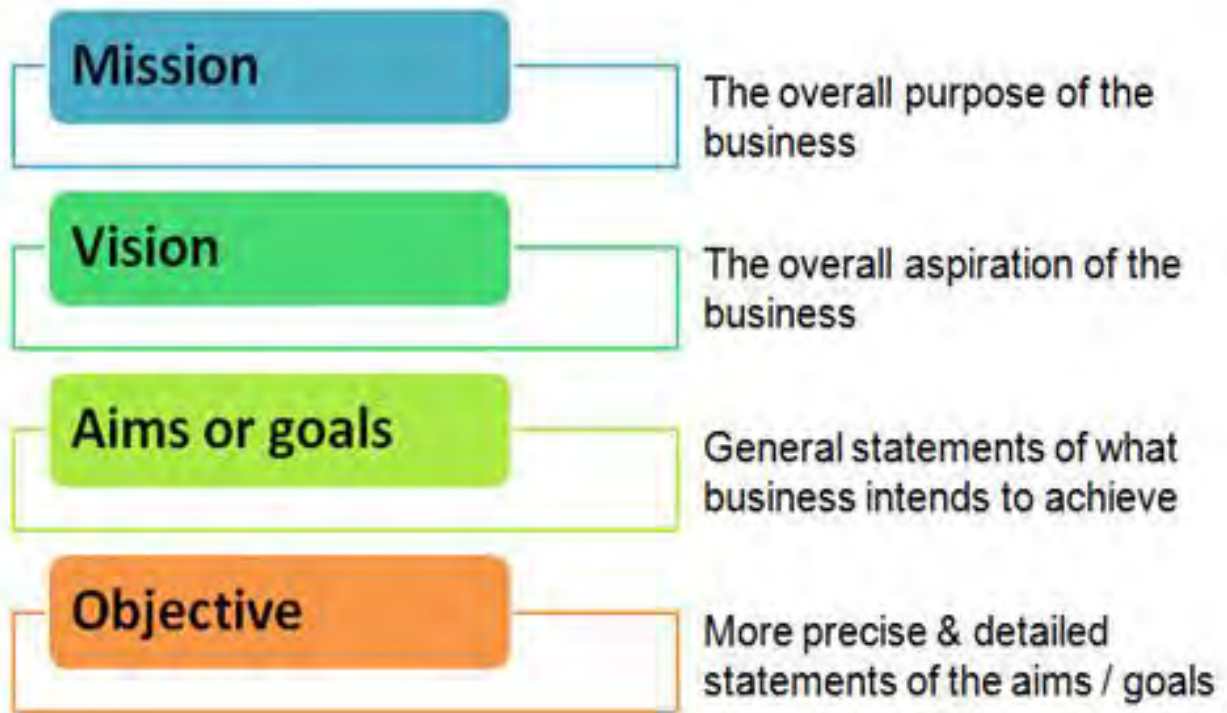
#### **7. Identifying performance measures is hard work, takes time and is iterative in nature.**

The agenda for the workshop was very aggressive, as have been all the workshops conducted by the NCSU team. Based on participant comments, reactions, and post-workshop questionnaires, it is clear that more time is necessary to fully complete all aspects of linking performance measures to goals, objectives and actions. The products of the workshop are impressive given a one day timeframe but more time is needed to comprehensively address performance measures as part of a planning process. In addition, the work required by participants is challenging and requires a great deal of critical thinking that should be balanced with less dense mental work. Based on the experience of this workshop and others, there are other engagement strategies that could be used as part of the planning process to balance the work effort with scheduling issues. The key is not to lose too much time between exercises as the work builds momentum. In addition, selecting the best performance measures can be iterative as questions are

being asked along the way, such as: is the data available? Is the data modeled or collected in real time? Can we set a target?, etc. Once these questions are answered, performance measures can be adjusted to best track how successful actions are delivering the intended goals.



## Appendix E-1: Guidance Given to the Committee



**MISSION (the bumper sticker):**

The FBRMPO strives to balance speed, safety, and mobility with human-scale streets and places.

**VISION (the elevator speech):**

The FBRMPO will promote a safe and efficient transportation system that increases transportation options and enhances the environment and livability of the region through a well-integrated roadway, transit, rail, pedestrian, and bicycle network.

**GOALS (General Statements of what the MPO intends to achieve):**

*"The French Broad River MPO seeks to..."*

IMPROVE MULTI-MODAL AND NON-MOTORIZED TRANSPORTATION OPTIONS

IMPROVE SAFETY

ADDRESS CONGESTION AND BOTTLENECKS (TRIP PREDICTIBILITY)

IMPROVE PUBLIC TRANSIT OPTIONS

IMPROVE AND EXPAND COMMUNITY & PUBLIC INVOLVEMENT

ENSURE CHANGES RESPECT OUR UNIQUE PLACES & ENVIRONMENTS

IMPROVE AND DEVELOP PLANNING TOOLS

SEEK WAYS TO MAINTAIN AND IMPROVE SAFE FREIGHT MOVEMENT WITHIN AND THROUGH THE REGION

**OBJECTIVES AND IMPLEMENTATION ITEMS Grouped with their related goal(s) follow:**

## IMPROVE MULTI-MODAL AND NON-MOTORIZED TRANSPORTATION OPTIONS



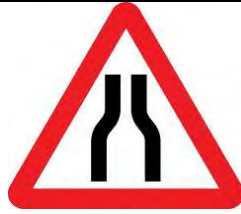
- **ADDRESS FUNDING FOR NON-MOTORIZED TRANSPORTATION**
  - Pursue change at state level to allow state funds be used for non-motorized portions of the transportation system; allow projects whose primary benefit is not motorized transportation to compete for those funds (improve STI for bike/ped); pursue change at state level to no longer require local governments to bear cost of sidewalk construction as part of an NCDOT roadway project if a sidewalk is needed (staff addition to the last item—idea of a “sidewalk warrant” similar to those for traffic signals)
  - Draft a study of potential funding at the local level for regular multi-modal improvements through a consistent revenue source (e.g. Pasadena’s parking revenue); assist interested local governments in developing revenue sources identified; identify projects that can be funded by a local bond; assist interested local governments in developing bond measures
  - Advocate for additional direct allocation funds from USDOT similar to tiger and increase STP-DA & TAP allocations
  - Develop bike/ped project list that are eligible for highway safety improvement program (HSIP) funds based on crash data; work with regional traffic engineer to provide initial ROI and advocate for projects to elevate to the state safety engineer.
- **ADDRESS OPERATIONS AND MAINTENANCE ISSUES OUTSIDE MUNICIPAL LIMITS**
  - Convene a local dialog between city & county governments and NCDOT on maintenance & operational responsibilities for non-highway infrastructure outside municipal limits.
- **ADDRESS CONCERNS/ISSUES WITH MULTI-MODAL FACILITIES INCLUDING GREENWAYS**
  - Assist local partners in greenway planning and landowner outreach efforts related to multi-modal issues
  - Persistently advocate for implementation of complete streets policy during project development
  - Task the complete streets workgroup to develop a tool to assess tradeoffs related to bike/ped/transit in highway. Use the tools to develop policy guidance on thresholds or criteria for not including non-motorized facilities in a project
- **ADDRESS CONCERNS/ISSUES WITH BIKE/PED SAFETY**
  - (still in development)
- **HOW INDIVIDUAL PROJECTS SHOULD RELATE TO THE GOAL**
  - Refine and improve bike and ped scoring measures used for prioritizing \*all\* projects for the transportation improvement program (tip); use those measures prioritizing projects to meet the fiscal constraints of this plan
  - Develop and implement bike/ped count plan
  - Develop new projects with NCDOT and local partners

## IMPROVE SAFETY



- **IDENTIFY CORRIDORS WITH SAFETY PROBLEMS WITH PARTICULAR ATTENTION TO BIKE/PED SAFETY**
  - Geocode detailed crash data from NCDOT, starting with CMP corridors
- **RECOMMEND POTENTIAL UPGRADES FOR FACILITIES OR ADDRESS OPERATIONS WHERE SAFETY CAN BE IMPROVED WITH PARTICULAR ATTENTION TO BIKE/PED SAFETY**
  - Research and update best practices related to facilities and operations; with special attention to modal overlap and injury/fatality crashes
- **RESEARCH CASE FOR MORE ACCESS CONTROL/CORRIDOR MANAGEMENT PROJECTS**
  - Research impact on retail sales and real estate values in corridors where retrofit medians were installed
- **HOW INDIVIDUAL PROJECTS SHOULD RELATE TO THE GOAL**
  - Refine crash-related prioritization and STP-DA/TAP crash criteria
  - Analyze and support (when warranted) safety projects brought forward by NCDOT/local jurisdictions
  - Include best practices recommendations in MTP; reward projects that incorporate best practices in prioritization processes
  - Report on crash factors in the region with special attention to those that can be addressed by facility design; use findings to refine safety factors in prioritization process

## **ADDRESS CONGESTION AND BOTTLENECKS (TRIP PREDICTIBILITY)**



- **PRIORITIZE PROJECTS IN CONGESTED CORRIDORS**
  - Update the congestion management plan (CMP)
- **DEFINE “HARMFUL CONGESTION” AND HOW TO MEASURE IT**
  - Research and present to board on congestion measures; have board guide staff in creating parameters to review congestion that is related to vibrant places and contextually acceptable versus congestion caused by inadequate design, capacity mismatch, or similar issue related to the facility.
- **DEFINE CONGESTION FOR NON-MOTORIZED MODES OF TRANSPORTATION**
  - Research and present to board on what constitutes non-motorized congestion and ways to measure it.
  - Continue to add to baseline bike and ped count inventory; have board adopt bike and ped count plan to prioritize count locations
  - Determine if there are any non-motorized congested areas in the region based on research conducted and board parameters.
- **HOW INDIVIDUAL PROJECTS SHOULD RELATE TO GOALS**
  - Advocate for projects in the congestion management plan for inclusion in the CTP, MTP, prioritization, and TIP
  - Develop recommendations for operational changes related to congestion

## IMPROVE PUBLIC TRANSIT OPTIONS



- **ADEQUATELY FUND LOCAL TRANSIT SERVICE AS SHOWN IN LOCAL TRANSIT PLANS:**
  - Research and present to the MPO board various funding strategies to include \$0.0025 sales tax and rental car tax options; study potential impacts of increasing fare as requested by local transit providers;
  - Create outreach and publicity for funding strategy chosen by the MPO board
  - Update CTSPs regularly
- **IMPROVE REGIONAL TRANSIT SERVICE:**
  - Work with transit operators' workgroup and city/county managers (that house transit systems) to decide on what the structure of a regional transit provider should be & how to fund it
  - Address regional services to provide (rideshare, call center, TDM, express bus, vanpool options)
  - Identify missed opportunities created by political boundaries & funding issues
- **ADDRESS LACK OF INTER-CITY TRANSIT:**
  - Outreach to private bus operators to improve service to the region--seek express service to nearest large markets (Charlotte, Atlanta) and better frequency service.
  - Develop a passenger rail market study with NCDOT rail and Norfolk/southern to reinstate Amtrak service to the region--initially with seasonal, weekend & holiday schedule; identify origin & destination markets and potential ridership
  - Advocate for re-activation of the rail line in the Saluda gap for potential passenger service
- **HOW INDIVIDUAL PROJECTS SHOULD RELATE TO GOALS**
  - Evaluate time competitive transit service on the I-26 and I-40 and/or adjacent corridors; recommend projects & appropriate technologies for inclusion in the MTP as warranted
  - Continue to implement service expansions as called for in local plans, notably (Asheville night service, etc.)
  - Include capital for transit vehicle replacement and system expansion in MTP as called for in CTSPs and local plans



## **IMPROVE AND EXPAND COMMUNITY & PUBLIC INVOLVEMENT**



PUBLIC OUTREACH

- **SEEK INPUT PARITY FOR ALL DEMOGRAPHIC GROUPS AND USERS OF THE TRANSPORTATION SYSTEM:**
  - Continued Outreach to Advocacy Groups and Community Groups
  - Continued Maintenance of Outreach Community Contacts and Media Contacts/Online Presence
  - Continued Translation of Key Document Summaries and Maintenance of Translation Services for Identified Language Groups; Continue American Sign Language Training for Staff
  - Host or assist local partners in hosting Aging in Place or Youth-related Workshops
  - Host or assist local partners with multimodal outreach events (Strive Not to Drive, Bike Safety Classes, Walk to School Day, Etc.)
- **FOSTER ENVIRONMENT FOR DISCUSSION OF COMPETING/CONFLICTING NEEDS:**
  - Continue to Support Boards, Subcommittees, and Workgroups
  - Host local stakeholder dialogs around projects going through the NEPA process
- **METRICS:**
  - To be addressed by workshop on 9/26
- **FOSTER AN INTERACTIVE PLANNING AND DESIGN PROCESS:**
  - Advocate for local interests at NCDOT on committees, workgroups, project NEPA Merger teams, and through statewide professional associations (NCAPA, NCAMPO, NCSITE, others)
  - Host or assist local partners in hosting workshop activities such as ADA audits, Complete Streets audits, etc.
  - Help publicize NCDOT local input meetings on large projects (Local Official's Informational Meeting and Public Meeting)
  - Create and publish project web pages for public consumption
- **INTEGRATE DISPARATE PLANNING AND DESIGN PROCESSES:**
  - Integrate disparate modal planning-CTSPs on SPOT/TIP update cycle, HSPs on MTP/CTP cycle
  - Integrate local plans directly into regional plans where possible



## **ENSURE CHANGES RESPECT OUR UNIQUE PLACES & ENVIRONMENTS**



- **SEEK WAYS TO ADDRESS IMBALANCED INVESTMENT PATTERN:**
  - Develop objective measure to balance additional costs for complete streets or environmental preservation with the benefits provided, not just as percentage of highway investment.
  - Review local off-street parking policies in land development ordinances and local parking infrastructure investments, pricing/restrictions on public parking, downtown parking supplies
  - Advocate for a performance metric that measures all users of the system, not just motor vehicles
- **FIND A MEANINGFUL WAY TO ADDRESS NATURAL ENVIRONMENT ISSUES AT A SYSTEMS LEVEL:**
  - Develop objective measure to balance additional costs for environmental preservation with the benefits provided, not just as percentage of highway investment.
  - Include environmental review elements in project “dossiers” and related project publications
- **ENGAGE THE STATE IN INVESTING IN BIKING AND WALKING:**
  - Something with bike/ped unit
  - Legislative delegation engagement and outreach, also outside city limit issue roadshow
- **FIND A MEANINGFUL WAY TO ADDRESS BUILT ENVIRONMENT ISSUES AT A SYSTEMS LEVEL:**
  - Develop objective measures to balance additional costs for complete streets with the benefits provided;
  - Develop measures to assess “road diet” project benefits against vehicle capacity changes
- **HOW INDIVIDUAL PROJECTS SHOULD RELATE TO GOALS:**
  - Does the project use Context Sensitive Design?
  - Does the project fit the context for where it is located and who it serves?

## IMPROVE AND DEVELOP PLANNING TOOLS



- **CREATE PLANS THAT CAN EASILY ADJUST TO REVENUE AND BEHAVIORAL CHANGES:**
  - Continue to invest in travel behavior and count data for all modes
  - Create a plan and model structure that can quickly accommodate revenue and behavioral\* changes
  - Create a financial plan common to the MTP and tip with a feedback loop as projects let
  - Create a revenue model that can adapt to Vehicle Miles Travelled (VMT) or other structural changes to funding and cost responsibilities
- **BUILD A TRAVEL MODEL THAT REFLECTS THE UNIQUENESS OF THE REGION**
  - Continue to invest in travel behavior and count data for all modes; partner with visitor bureaus for visitor data
  - Maintain forecast platform in community viz
  - Create baseline bike/ped inventories for downtowns and major activity centers in conjunction with local partners; assist NCDOT and local partners as needed for vehicular traffic counts and freight percentages
  - Refine base year land use creation; update in 5-year increments along with dwelling units, associated population data (households, household size, population, demographic indicators, group quarters), and employment data.
- **HOW INDIVIDUAL PROJECT SHOULD RELATE TO THE GOAL**
  - Continue to invest in travel behavior and count data for all modes
  - Purchase and deploy additional bike/ped counters
  - Purchase additional community viz license

## **SEEK WAYS TO MAINTAIN AND IMPROVE SAFE FREIGHT MOVEMENT WITHIN AND THROUGH THE REGION**



- **DEVELOP METHODS FOR MONITORING FREIGHT FLOWS WITHIN AND THROUGH THE REGION.**
  - Work with area manufacturers, the WNCTA, and area chambers of commerce to build relationships with freight community;
  - Build upon existing knowledge from inland port and other studies;
  - Seek direct or indirect (BLS, BEA et cetera) ways to use proprietary freight data from railroads and trucking companies
  - Obtain both detail (weigh station) and aggregate freight data from NCDOT/USDOT that is available; identify shortcomings and begin dialog on the best way to address data gaps.
- **DETERMINE GLOBAL, NATIONAL, AND LOCAL MARKET INFLUENCES ON FREIGHT TRAVEL THROUGH THE REGION FOR ALL MODES (E.G. TRUCK, RAIL AND MARITIME CONNECTIONS).**
  - Review freight movements by mode as available in aggregate;
  - Research potential of freight origin/destination study for trucks and possible way to link with business census for modeling use; separate component for studying local (delivery) trips
- **IDENTIFY MEASURES FOR FREIGHT-INDUCED CONGESTION THAT RELATE TO LOCAL GEOGRAPHIC CONDITIONS AND EXTERNAL INFLUENCES.**
  - Review the role of grade/slope variables in travel model; research ways to improve as warranted
- **PROMOTE LAND USE POLICIES THAT ARE SENSITIVE TO FREIGHT NEEDS ALONG RAIL AND HIGHWAY CORRIDORS.**
  - Using FHWA Freight and Land Use Handbook (April 2012) as a guide, do a small area plan as a pilot around select sites in the region. Participation by local partners responsible for land use regulation as a requirement for site selection.
  - Advocate for preservation of freight rail service and rail corridors
- **HOW INDIVIDUAL PROJECTS RELATE TO GOAL**
  - Develop freight related criteria for prioritization of projects.
  - Advocate for preservation of freight rail service and rail corridors; assist industry with rail connections as opportunities arise.

## Appendix E-2: Agenda

### Livability Performance Measures Workshop Asheville, North Carolina September 26, 2014 AGENDA

<b>Check In</b> 8:30am to 9:00am	Sign in and coffee
<b>Introductions</b> 9am to 9:20 am	Welcome by Paul Black Introduce Leigh Lane and Adrienne Heller Participant Introductions
<b>Overview of Huntsville Comprehensive Plan</b> 9:20 am to 9:40 am	Paul to provide short presentation of status of the FBR MPO Plan effort.
<b>Overview of Livability Performance Measures</b> 9:40am – 10:15 am	Leigh Lane and Adrienne Heller to present “State of the Practice: Performance Based Planning” and present the Community Vision Metrics” resource.  15 minute break
<b>Selecting Performance Measures Exercise:</b> 10:30 am to 12:00 pm	Participants will work in small groups to select the performance measures for the 8 transportation goals for the FBR MPO Plan.
<b>BREAK FOR LUNCH</b>	
<b>Review Results: Group Discussion</b> 1:15 pm to 1:45 pm	Participants will participate in a group discussion to review the performance measures selected during the morning exercise.
<b>Implementation Exercise</b> 1:45 pm to 4:00 pm	Participants will work in small groups to map performance measures selected to action items identified for all FBR MPO objectives. Potential new measures will be identified as part of this exercise.
<b>Wrap Up and Next Steps</b>	Leigh and Paul to provide some final comments about the workshop and ideas for next steps.

### Appendix E-3: Further Resources

Resource	Link
FHWA and FTA: <i>Performance Based Planning and Programming Guidebook</i>	<a href="http://www.fhwa.dot.gov/planning/performance_based_planning/pbpp_guidebook/pbppg_guidebook.pdf">http://www.fhwa.dot.gov/planning/performance_based_planning/pbpp_guidebook/pbppg_guidebook.pdf</a>
FHWA: Let's Talk Performance Webinar Series	<a href="http://www.fhwa.dot.gov/tpm/resources/ltw_webinars.cfm">http://www.fhwa.dot.gov/tpm/resources/ltw_webinars.cfm</a>
Transit's Equivalent of LOS	<a href="http://www.trb.org/Main/Blurbs/153590.aspx">http://www.trb.org/Main/Blurbs/153590.aspx</a>
EPA's <i>Guide to Sustainable Transportation Performance Measures</i>	<a href="http://www.epa.gov/smartgrowth/transpo_performance.htm">http://www.epa.gov/smartgrowth/transpo_performance.htm</a>
NCHRP 708: <i>A guidebook for Sustainability Performance Measurement for Transportation Agencies</i>	<a href="http://www.trb.org/Main/Blurbs/166313.aspx">http://www.trb.org/Main/Blurbs/166313.aspx</a>
NCHRP 666: Target-Setting Methods and Data Management to Support Performance-Based Resource Allocation by Transportation Agencies	<a href="http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_666.pdf">http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_666.pdf</a>
FHWA: <i>Livability in Transportation Guidebook</i>	<a href="http://www.fhwa.dot.gov/livability/case_studies/guidebook/">http://www.fhwa.dot.gov/livability/case_studies/guidebook/</a>
Center for Neighborhood Technology: <i>H+T Index</i>	<a href="http://htaindex.cnt.org/">http://htaindex.cnt.org/</a>
Well Measured: Developing Indicators for Sustainable and Livable Transport Planning	<a href="http://www.vtpi.org/wellmeas.pdf">http://www.vtpi.org/wellmeas.pdf</a>
Community Vision Metrics	<a href="http://www.planningcommunities.com/communityvisionmetrics/">http://www.planningcommunities.com/communityvisionmetrics/</a>

# Appendix E-4: Potential Performance Measures

## Goal 1: IMPROVE MULTI-MODAL AND NON-MOTORIZED TRANSPORTATION OPTIONS

### Potential Measures:

1. Miles of sidewalks, bike lanes and greenways per capita
2. Bike path utilization rates
3. Sidewalk utilization rates
4. Modal share for work commute
5. Modal share for school travel
6. Annual number of bike/ped injuries and fatalities
7. Number participating in bicycle program or event.
8. Percent of state bike routes with paved shoulders.
9. Number of schools, universities and colleges participating in pedestrian and bicycle safety education/encouragement programs.
10. Percent of signalized intersections with pedestrian crosswalks and crossing signals.
11. Percent of roads served by more than one mode of travel.
12. Percentage of eligible roadway projects built as Complete Streets
13. Percent of streets with presence of benches, shade trees, bike racks, good lighting, flower pots, etc. which make non-motorized travel more pleasant.
14. % funding for non-motorized transportation infrastructure compared to total transportation funding.
15. % of non-motorized transportation infrastructure in state of good repair (determined by infrastructure health assessments)
16. Percent of transit and rail hubs with complete access amenities for bike/ped.
17. Percentage of population within a ½ mile walk (along pedestrian network) of recreational destinations, including public parks
18. Percentage of children that walk or bike to school
19. Percentage of population that walks or bikes for health purposes
20. Percentage of residents living in walkable neighborhoods

Chosen Initial Performance Measure	Potential measure number	Change
Percentage signalized intersections with pedestrian crosswalks and signals	10	None
Mode share metric	4, 5	Removed "for work commute" and "for school travel"
Miles of multi-modal facility and connectivity metric	1	Changed "sidewalks, bike lanes and greenways per capita" to "multi-modal facility"; added "connectivity metric"
Annual bike/ped injuries/fatalities	6	None
Dollars funding for non-motorized transport vs entire funding	14	Changed "Percent" to "Dollars"
Number of walkable neighborhoods	20	Changed focus to neighborhoods instead of residents, changed "Percent" to "Number"
Percent eligible roadway projects as Complete Streets	12	None

## Goal 2: IMPROVE SAFETY

### Potential Measures:

1. Percentage of streets with speed limits incompatible with surrounding land uses
2. Annual number of motor vehicle, bike and pedestrian injuries and fatalities
3. Per capita traffic crash and fatalities rates
4. Number of schools, universities and colleges participating in pedestrian and bicycle safety education/encouragement programs.
5. Percent of signalized intersections with pedestrian crosswalks and crossing signals.
6. Economic cost of roadway injuries and fatalities per year
7. Percent of existing facilities brought into compliance with Americans Disability Action (ADA) requirements.
8. % of roadway/transit infrastructure achieving state of good repair
9. Annual hours of delay due to congestion per capita
10. % rear-end vehicle crashes on arterials

Chosen Initial Performance Measure	Potential measure number	Change
Decrease crash rates in low income/minority communities	n/a	New measure
Increase number of facilities complying with ADA	7	Removed "[total] percent", replaced with "increase number"
Increase percentage of signalized intersections in a corridor with ped crossings and signals	5	"Changed "[total] percentage" to "increase percentage"
Decrease annual number of motor vehicle and bike/ped injuries and fatalities	2	Changed "[total] annual number" to "decrease annual number"
Increase percentage of streets with speed limits and other road characteristics compatible with surrounding land uses	1	Changed "[total] percentage" to "increase percentage"



**Goal 3: ADDRESS CONGESTION AND BOTTLENECKS (TRIP PREDICTIBILITY)****Potential Measures**

1. Annual hours of delay due to congestion per capita
2. Vehicle miles traveled per capita
3. Total time lost due to incidents
4. Travel time reliability (buffer index: cushion time).
5. Percentage of freeway miles with ITS systems in place (VMS, etc.)
6. Average time to clear incidents
7. Percent single occupancy commute drivers.
8. Percentage of population commuting to work using modes other than single occupancy private vehicles (carpooling, public transit, etc.)
9. Multi-modal level of service (HCM, Bike and Pedestrian Environmental Quality Indexes, Charlotte LOS Protocol, etc.)
10. Truck hours of delay
11. Average freight speed
12. Per capita congestion costs
13. Average commute travel times to work

<b>Chosen Initial Performance Measure</b>	<b>Potential measure number</b>	<b>Change</b>
Average travel commute times to work	13	None
Travel time reliability and info availability	4	None
Average time to clear incidents and number of incidents	6	Added "and number of incidents"
Mode split and single occupancy vehicles (SOV)	7	Added "mode split," removed "percent"
Multi-modal LOS	9	None
Network connectivity/redundancy	n/a	New measure

## Goal 4: IMPROVE PUBLIC TRANSIT OPTIONS

### Potential Measures:

1. Percentage of population living within ½ mile of a transit stop with frequent transit service (*need to define a headway threshold for “frequent” service*)
2. Percentage of employment locations located within ½ mile of a transit stop.
3. Modal share for work commute
4. Annual public transportation passenger miles per capita
5. Miles of fixed route bus service.
6. Population density (persons per square mile)
7. Employment density (Employment centers per square mile)
8. Percentage of residential units located within ½ mile of at least 3 key commercial services (retail, banking, restaurants, entertainment, etc.)
9. Percentage of population living within ½ mile of a mixed-use district
10. Parking costs/hour

Chosen Initial Performance Measure	Potential measure number	Change
Increase percentage of population within 1/2 mile of frequent transit service (what is 'frequent'?)	1	Changed "[total] percentage" to "increase percentage"
Increase employment locations served by transit	2	Changed "[total] percentage" to "increase [number]"
Increase annual public transit passenger miles per capita	4	Changed "[total] annual" to "increase annual"
Increase local funding for transit (public and private dollars)	n/a	New measure
Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	n/a	New measure - similar to potential measure 1, but with a regional focus

**Goal 5: IMPROVE AND EXPAND COMMUNITY & PUBLIC INVOLVEMENT****Potential Measures:**

1. Number participating in community and public involvement events
2. % of very satisfied participants at community and public involvement events (based survey results)
3. % of projects that stay on schedule for completion of environmental studies
4. Customer satisfaction survey results (% overall positive opinion of transportation system)
5. % change in funding for transportation infrastructure by public private partnership
6. Number of participants at transportation educational events

Chosen Initial Performance Measure	Potential measure number	Change
Increase meaningful public input into controversial projects	n/a	New measure
Projects reflective of community input	n/a	New measure
Increase use of multiple outreach tools (meetings, charrettes, social media, surveys, etc.)	n/a	New measure
Increase in outreach to groups representing under-represented populations	n/a	New measure
Increase in number of people participating in public involvement events	1	Changed "[total] number" to "increase in number"

## Goal 6: ENSURE CHANGES RESPECT OUR UNIQUE PLACES & ENVIRONMENTS

### Potential Measures:

1. Accessed tax value of properties adjacent to roadways.
2. Percent of households with transportation costs equal to or greater than 15% of household income
3. Percent of households with combined housing and transportation costs equal to or greater than 45% of household income
4. GDP growth rate per Vehicle Miles Travelled (VMT) growth rate
5. Jobs-Housing balance (dissimilarity index: measure of accessibility and spatial mismatch)
6. New Business start ups
7. Number of locally owned businesses.
8. Energy consumption in transportation by mode and energy sources.
9. Land paved for transport facilities (roads, parking, ports and airports).
10. Energy consumption per freight ton-mile.
11. Mobile source emissions as compared to total emissions.
12. Percent of streets designed by "Green Road" standards.
13. Travel time by income group (equity related measure)
14. Water pollution emissions.
15. % of underdeveloped land used for transportation infrastructure
16. % change in state funding for bike and pedestrian projects
17. % of projects selected on the basis of achieving priority ecological outcomes
18. Street Connectivity Index
19. GDP growth rate per Vehicle Miles Travelled (VMT) growth rate
20. Land use density (people and jobs per unit of land area)

Chosen Initial Performance Measure	Potential measure number	Change
Percentage change in state funding for bike/ped	16	None
Percent undeveloped land used for transportation infrastructure	15	None
Land paved for transport facilities	9	None
Combined housing and transportation costs	3	Removed "percent of households with combined housing + transportation costs equal to or greater than 45% of household income"
Context-sensitivity metric (TBD)	n/a	New measure

**Goal 7: IMPROVE AND DEVELOP PLANNING TOOLS**

<b>Chosen Initial Performance Measure</b>	<b>Potential measure number</b>	<b>Change</b>
Improve freight and visitor models	n/a	New measure
Up to date travel behavior data	n/a	New measure
Review plan annually for updates	n/a	New measure
Back-test model at beginning of model cycle	n/a	New measure

## Goal 8: SEEK WAYS TO MAINTAIN AND IMPROVE SAFE FREIGHT MOVEMENT WITHIN AND THROUGH THE REGION

### Potential Measures:

1. Average freight delay per ton
2. Truck hours of delay
3. Average freight speed
4. Average truck speed on major freight corridors
5. Travel time index at major freight bottlenecks
6. Cost of goods movement in key national modal corridors
7. Number of enterprises in key industries with reasonable access (must be defined) to high capacity highway or rail facilities
8. Travel time of goods to essential markets
9. % population within user-defined distance to four-lane highway facilities; air cargo service; scheduled air service; intercity bus service; intercity rail service, etc.
10. GDP growth rate per Vehicle Miles Travelled (VMT) growth rate

Chosen Initial Performance Measure	Potential measure number	Change
Freight incidents	n/a	New measure
Freight restrictions (off-peak delivery and pickup)	n/a	New measure
Loading zone adequacy	n/a	New measure
Travel time to essential markets	8	Removed "of goods"
Number of enterprises "last mile"	n/a	New measure

### Appendix E-5: Implementation Exercise Worksheets

GOAL 1: IMPROVE MULTI-MODAL AND NON-MOTORIZED TRANSPORTATION OPTIONS		
ADDRESS FUNDING FOR NON-MOTORIZED TRANSPORTATION		
Action	Current Measure	New Measure
Pursue change at state level to allow state funds be used for non-motorized portions of the transportation system allow projects whose primary benefit is not motorized transportation to compete for those funds (improve STI for bike/ped) pursue change at state level to no longer require local governments to bear cost of sidewalk construction as part of an NCDOT roadway project if a sidewalk is needed (staff addition to the last item—idea of a “sidewalk warrant” similar to those for traffic signals)	NR	NR
Draft a study of potential funding at the local level for regular multi-modal improvements through a consistent revenue source (e.g. Pasadena’s parking revenue) assist interested local governments in developing revenue sources identified identify projects that can be funded by a local bond assist interested local governments in developing bond measures	NR	NR
Advocate for additional direct allocation funds from USDOT similar to tiger and increase STP-DA & TAP allocations	Dollars funding for non-motorized transport vs entire funding	Increase in applications for allocated funds
Develop bike/ped project list that are eligible for highway safety improvement program (HSIP) funds based on crash data work with regional traffic engineer to provide initial ROI and advocate for projects to elevate to the state safety engineer.	Decrease crash rates (Goal 2); decrease crash rates in low-income/minority communities (Goal 2); percentage signalized intersections with pedestrian crosswalks and signals; miles of multi-modal facilities; all safety measures (if \$\$ can be used for bike/ped) (Goal 2)	Number of potential projects eligible for HSIP (is bike/ped eligible for HSIP?)



<b>GOAL 1 cont'd: IMPROVE MULTI-MODAL AND NON-MOTORIZED TRANSPORTATION OPTIONS</b>		
<b>ADDRESS OPERATIONS AND MAINTENANCE ISSUES OUTSIDE MUNICIPAL LIMITS</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Convene a local dialog between city & county governments and NCDOT on maintenance & operational responsibilities for non-highway infrastructure outside municipal limits.	Miles of multi-modal facilities	NR
<b>ADDRESS CONCERNS/ISSUES WITH MULTI-MODAL FACILITIES INCLUDING GREENWAYS</b>		
Assist local partners in greenway planning and landowner outreach efforts related to multi-modal issues	Percent eligible roadway projects as Complete Streets	Number of conversations with local partners
Persistently advocate for implementation of complete streets policy during project development	Percent eligible roadway projects as Complete Streets	NR
Task the complete streets workgroup to develop a tool to assess tradeoffs related to bike/ped/transit in highway. Use the tools to develop policy guidance on thresholds or criteria for not including non-motorized facilities in a project	Percent eligible roadway projects as Complete Streets; miles of multi-modal facilities	NR
<b>ADDRESS CONCERNS/ISSUES WITH BIKE/PED SAFETY</b>		
<b>HOW INDIVIDUAL PROJECTS SHOULD RELATE TO THE GOAL</b>		
Refine and improve bike and ped scoring measures used for prioritizing *all* projects for the transportation improvement program (tip) use those measures prioritizing projects to meet the fiscal constraints of this plan	NR	NR
Develop and implement bike/ped count plan	NR	NR
Develop new projects with NCDOT and local partners	NR	NR

<b>GOAL 2: IMPROVE SAFETY</b>		
<b>IDENTIFY CORRIDORS WITH SAFETY PROBLEMS WITH PARTICULAR ATTENTION TO BIKE/PED SAFETY</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Geocode detailed crash data from NCDOT, starting with CMP corridors	NR	NR
<b>RECOMMEND POTENTIAL UPGRADES FOR FACILITIES OR ADDRESS OPERATIONS WHERE SAFETY CAN BE IMPROVED WITH PARTICULAR ATTENTION TO BIKE/PED SAFETY</b>		
Research and update best practices related to facilities and operations with special attention to modal overlap and injury/fatality crashes	NR	NR
<b>RESEARCH CASE FOR MORE ACCESS CONTROL/CORRIDOR MANAGEMENT PROJECTS</b>		
Refine crash-related prioritization and STP-DA/TAP crash criteria	NR	NR
<b>HOW INDIVIDUAL PROJECTS SHOULD RELATE TO THE GOAL</b>		
Refine crash-related prioritization and STP-DA/TAP crash criteria	NR	NR
Analyze and support (when warranted) safety projects brought forward by NCDOT/local jurisdictions	NR	NR
Include best practices recommendations in MTP; reward projects that incorporate best practices in prioritization processes	Increase number of facilities complying with ADA	NR
Report on crash factors in the region with special attention to those that can be addressed by facility design; use findings to refine safety factors in prioritization process	NR	NR

<b>GOAL 3: ADDRESS CONGESTION AND BOTTLENECKS (TRIP PREDICTIBILITY)</b>		
<b>PRIORITIZE PROJECTS IN CONGESTED CORRIDORS</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Update the congestion management plan (CMP)	All measures apply	NR
<b>DEFINE “HARMFUL CONGESTION” AND HOW TO MEASURE IT</b>		
Research and present to board on congestion measures have board guide staff in creating parameters to review congestion that is related to vibrant places and contextually acceptable versus congestion caused by inadequate design, capacity mismatch, or similar issue related to the facility.	All measures apply	NR
<b>DEFINE CONGESTION FOR NON-MOTORIZED MODES OF TRANSPORTATION</b>		
Research and present to board on what constitutes non-motorized congestion and ways to measure it.	Multi-modal LOS	NR
Continue to add to baseline bike and ped count inventory have board adopt bike and ped count plan to prioritize count locations	Multi-modal LOS; Mode split and single occupancy vehicles (SOV); Travel time reliability and info availability	NR
Determine if there are any non-motorized congested areas in the region based on research conducted and board parameters.	Multi-modal LOS	NR
<b>HOW INDIVIDUAL PROJECTS SHOULD RELATE TO GOALS</b>		
Advocate for projects in the congestion management plan for inclusion in the CTP, MTP, prioritization, and TIP	All measures apply	NR
Develop recommendations for operational changes related to congestion	Average time to clear incidents and number of incidents; Network connectivity/redundancy	NR

<b>GOAL 4: IMPROVE PUBLIC TRANSIT OPTIONS</b>		
<b>ADEQUATELY FUND LOCAL TRANSIT SERVICE AS SHOWN IN LOCAL TRANSIT PLANS</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Research and present to the MPO board various funding strategies to include \$0.0025 sales tax and rental car tax options study potential impacts of increasing fare as requested by local transit providers	NR	NR
Create outreach and publicity for funding strategy chosen by the MPO board	Increase local funding for transit (public and private dollars); Increase meaningful public input into controversial projects (Goal 5)	NR
Update CTSPs regularly	Review plan annually for updates (Goal 7)	NR
<b>IMPROVE REGIONAL TRANSIT SERVICE</b>		
Work with transit operators' workgroup and city/county managers (that house transit systems) to decide on what the structure of a regional transit provider should be & how to fund it	Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	NR
Address regional services to provide (rideshare, call center, TDM, express bus, vanpool options)	Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	NR
Identify missed opportunities created by political boundaries & funding issues	Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	NR

<b>GOAL 4 cont'd: IMPROVE PUBLIC TRANSIT OPTIONS</b>		
<b>ADDRESS LACK OF INTER-CITY TRANSIT</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Outreach to private bus operators to improve service to the region--seek express service to nearest large markets (Charlotte, Atlanta) and better frequency service.	Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	NR
Develop a passenger rail market study with NCDOT rail and Norfolk/southern to reinstate Amtrak service to the region--initially with seasonal, weekend & holiday schedule identify origin & destination markets and potential ridership	None	NR
Advocate for re-activation of the rail line in the Saluda gap for potential passenger service	Increase local funding for transit (public and private dollars); Increase employment locations served by transit	NR
<b>HOW INDIVIDUAL PROJECTS SHOULD RELATE TO GOALS</b>		
Evaluate time competitive transit service on the I-26 and I-40 and/or adjacent corridors recommend projects & appropriate technologies for inclusion in the MTP as warranted	Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	NR
Continue to implement service expansions as called for in local plans, notably (Asheville night service, etc.)	Increase percentage of population within 1/2 mile of frequent transit service (what is 'frequent?'); Increase annual public transit passenger miles per capita	NR
Include capital for transit vehicle replacement and system expansion in MTP as called for in CTSPs and local plans	Increase local funding for transit (public and private dollars)	NR

<b>GOAL 5: IMPROVE AND EXPAND COMMUNITY &amp; PUBLIC INVOLVEMENT<sup>27</sup></b>		
<b>SEEK INPUT PARITY FOR ALL DEMOGRAPHIC GROUPS AND USERS OF THE TRANSPORTATION SYSTEM</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Continued Outreach to Advocacy Groups and Community Groups	NR	NR
Continued Maintenance of Outreach Community Contacts and Media Contacts/Online Presence	NR	NR
Continued Translation of Key Document Summaries and Maintenance of Translation Services for Identified Language Groups Continue American Sign Language Training for Staff	NR	NR
Host or assist local partners in hosting Aging in Place or Youth-related Workshops	NR	NR
Host or assist local partners with multimodal outreach events (Strive Not To Drive, Bike Safety Classes, Walk to School Day, Etc.)	NR	NR
<b>FOSTER ENVIRONMENT FOR DISCUSSION OF COMPETING/CONFLICTING NEEDS</b>		
Continue to Support Boards, Subcommittees, and Workgroups	NR	NR
Host local stakeholder dialogs around projects going through the NEPA process	NR	NR
<b>METRICS</b>		
	NR	NR
<b>FOSTER AN INTERACTIVE PLANNING AND DESIGN PROCESS</b>		
Advocate for local interests at NCDOT on committees, workgroups, project NEPA Merger teams, and through statewide professional associations (NCAPA, NCAMPO, NCSITE, others)	NR	NR
Host or assist local partners in hosting workshop activities such as ADA audits, Complete Streets audits, etc.	NR	NR
Help publicize NCDOT local input meetings on large projects (Local Official's Informational Meeting and Public Meeting)	NR	NR
Create and publish project web pages for public consumption	NR	NR
<b>INTEGRATE DISPARATE PLANNING AND DESIGN PROCESSES</b>		
Integrate disparate modal planning-CTSPs on SPOT/TIP update cycle, HSPs on MTP/CTP cycle	NR	NR
Integrate local plans directly into regional plans where possible	NR	NR

<sup>27</sup> Note that this exercise was not completed due to time constraints.



<b>GOAL 6: ENSURE CHANGES RESPECT OUR UNIQUE PLACES &amp; ENVIRONMENTS</b>		
<b>SEEK WAYS TO ADDRESS IMBALANCED INVESTMENT PATTERN</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Develop objective measure to balance additional costs for complete streets or environmental preservation with the benefits provided, not just as percentage of highway investment.	NR	Economic indicator or metric
Review local off-street parking policies in land development ordinances and local parking infrastructure investments, pricing/restrictions on public parking, downtown parking supplies	Land paved for transport facilities	NR
Advocate for a performance metric that measures all users of the system, not just motor vehicles	Multi-modal LOS (Goal 3); Mode split and single occupancy vehicles	NR
<b>FIND A MEANINGFUL WAY TO ADDRESS NATURAL ENVIRONMENT ISSUES AT A SYSTEMS LEVEL</b>		
Develop objective measure to balance additional costs for environmental preservation with the benefits provided, not just as percentage of highway investment.	?	Economic indicator or metric
Include environmental review elements in project “dossiers” and related project publications	Percentage of undeveloped land use for transportation infrastructure	NR
<b>ENGAGE THE STATE IN INVESTING IN BIKING AND WALKING</b>		
Something with bike/ped unit	Percent undeveloped land used for transportation infrastructure; Percentage change in state funding for bike/ped	NR
Legislative delegation engagement and outreach, also outside city limit issue roadshow	Percentage change in state funding for bike/ped; Annual bike/ped injuries/fatalities (Goal 1)	NR

<b>GOAL 6 cont'd: ENSURE CHANGES RESPECT OUR UNIQUE PLACES &amp; ENVIRONMENTS</b>		
<b>FIND A MEANINGFUL WAY TO ADDRESS BUILT ENVIRONMENT ISSUES AT A SYSTEMS LEVEL</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Develop objective measures to balance additional costs for complete streets with the benefits provided	Number of walkable neighborhoods	NR
Develop measures to assess “road diet” project benefits against vehicle capacity changes	Multi-modal LOS (Goal 3)	NR
<b>HOW INDIVIDUAL PROJECTS SHOULD RELATE TO GOALS</b>		
Does the project use Context Sensitive Design?	Context-sensitivity metric (TBD)	NR
Does the project fit the context for where it is located and who it serves?	Context-sensitivity metric (TBD); Increase meaningful public input into controversial projects (Goal 5)	NR

<b>GOAL 7: IMPROVE AND DEVELOP PLANNING TOOLS<sup>28</sup></b>		
<b>CREATE PLANS THAT CAN EASILY ADJUST TO REVENUE AND BEHAVIORAL CHANGES</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Continue to invest in travel behavior and count data for all modes	NR	NR
Create a plan and model structure that can quickly accommodate revenue and behavioral* changes	NR	NR
Create a financial plan common to the MTP and tip with a feedback loop as projects let	NR	NR
Create a revenue model that can adapt to Vehicle Miles Travelled (VMT) or other structural changes to funding and cost responsibilities	NR	NR
<b>BUILD A TRAVEL MODEL THAT REFLECTS THE UNIQUENESS OF THE REGION</b>		
Continue to invest in travel behavior and count data for all modes partner with visitor bureaus for visitor data	NR	NR
Maintain forecast platform in community viz	NR	NR
Create baseline bike/ped inventories for downtowns and major activity centers in conjunction with local partners assist NCDOT and local partners as needed for vehicular traffic counts and freight percentages	NR	NR
Refine base year land use creation update in 5-year increments along with dwelling units, associated population data (households, household size, population, demographic indicators, group quarters), and employment data.	NR	NR
<b>HOW INDIVIDUAL PROJECT SHOULD RELATE TO THE GOAL</b>		
Continue to invest in travel behavior and count data for all modes	NR	NR
Purchase and deploy additional bike/ped counters	NR	NR
Purchase additional community viz license	NR	NR

<sup>28</sup> Note that this exercise was not completed due to time constraints.

<b>GOAL 8: SEEK WAYS TO MAINTAIN AND IMPROVE SAFE FREIGHT MOVEMENT WITHIN AND THROUGH THE REGION</b>		
<b>METHODS FOR MONITORING FREIGHT FLOWS WITHIN AND THROUGH THE REGION.</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Work with area manufacturers, the WNCTA, and area chambers of commerce to build relationships with freight community	-	Lane matching (number of companies)
Build upon existing knowledge from inland port and other studies	Travel time to essential markets	NR
Seek direct or indirect (BLS, BEA et cetera) ways to use proprietary freight data from railroads and trucking companies	Travel time to essential markets	NR
Obtain both detail (weigh station) and aggregate freight data from NCDOT/USDOT that is available identify shortcomings and begin dialog on the best way to address data gaps.	NR	Truck hours of delay
<b>DETERMINE GLOBAL, NATIONAL, AND LOCAL MARKET INFLUENCES ON FREIGHT TRAVEL THROUGH THE REGION FOR ALL MODES (E.G. TRUCK, RAIL AND MARITIME CONNECTIONS).</b>		
Review freight movements by mode as available in aggregate	Travel time to essential markets	NR
Research potential of freight origin/destination study for trucks and possible way to link with business census for modeling use separate component for studying local (delivery) trips	Travel time to essential markets	NR
<b>IDENTIFY MEASURES FOR FREIGHT-INDUCED CONGESTION THAT RELATE TO LOCAL GEOGRAPHIC CONDITIONS AND EXTERNAL INFLUENCES.</b>		
Review the role of grade/slope variables in travel model research ways to improve as warranted	Freight incidents	Average freight speed to posted/design speed? (Ultimately not selected for sticky wall)

<b>GOAL 8 cont'd: SEEK WAYS TO MAINTAIN AND IMPROVE SAFE FREIGHT MOVEMENT WITHIN AND THROUGH THE REGION</b>		
<b>PROMOTE LAND USE POLICIES THAT ARE SENSITIVE TO FREIGHT NEEDS ALONG RAIL AND HIGHWAY CORRIDORS.</b>		
<b>Action</b>	<b>Current Measure</b>	<b>New Measure</b>
Using FHWA Freight and Land Use Handbook (April 2012) as a guide, do a small area plan as a pilot around select sites in the region. Participation by local partners responsible for land use regulation as a requirement for site selection.	Number of enterprises "last mile"	NR
Advocate for preservation of freight rail service and rail corridors	NR	Miles of active vs inactive corridor (rail)
<b>HOW INDIVIDUAL PROJECTS RELATE TO GOAL</b>		
Develop freight related criteria for prioritization of projects.	NR	NR
Advocate for preservation of freight rail service and rail corridors assist industry with rail connections as opportunities	NR	NR

**Appendix E-6: Prioritization Exercise**

<b>Goal 1</b> <b>Improve multi-modal and non-motorized transportation options</b>	
<b>Performance Measure</b>	<b>Votes</b>
Miles of multi-modal facility and connectivity metric	6
Dollars funding for non-motorized transport vs entire funding	4
Number of walkable neighborhoods	4
Percentage signalized intersections with pedestrian crosswalks and signals	3
Percent eligible roadway projects as Complete Streets	3
Mode share metric	2
Annual bike/ped injuries/fatalities	-
Number of meetings between city/county governments around non-highway infrastructure	-
Increase in applications for allocated funds (TIGER etc.)	-
Complete a study on potential funding sources	-
Number of potential projects eligible for HSIP (if eligible)	-
Number of meetings hosted with local governments on potential funding	-



<b>Goal 2</b> <b>Improve safety</b>	
<b>Performance Measure</b>	<b>Votes</b>
Decrease annual number of motor vehicle and bike/ped injuries and fatalities	8
Increase number of facilities complying with ADA	4
Increase percentage of signalized intersections in a corridor with ped crossings and signals	4
Increase percentage of streets with speed limits and other road characteristics compatible with surrounding land uses	4
Decrease crash rates in low income/minority communities	-

<b>Goal 3</b> <b>Address congestion and bottlenecks (trip predictability)</b>	
<b>Performance Measure</b>	<b>Votes</b>
Multi-modal LOS	8
Average travel commute times to work	4
Network connectivity/redundancy	4
Travel time reliability and info availability	3
Average time to clear incidents and number of incidents	1
Mode split and single occupancy vehicles (SOV)	1

<b>Goal 4</b> <b>Improve public transit options</b>	
<b>Performance Measure</b>	<b>Votes</b>
Increase percentage of population within 1/2 mile of frequent transit service (what is 'frequent'?)	7
Increase employment locations served by transit	4
Increase annual public transit passenger miles per capita	4
Increase local funding for transit (public and private dollars)	4
Increase in number of communities served by regional transit options (P&R lots, express bus, etc.)	2

<b>Goal 5</b> <b>Improve and expand community and public involvement</b>	
Performance Measure	Votes
Increase meaningful public input into controversial projects	4
Projects reflective of community input	4
Increase in outreach to groups representing under-represented populations	3
Increase in number of people participating in public involvement events	3
Increase use of multiple outreach tools (meetings, charrettes, social media, surveys, etc.)	1

<b>Goal 6</b> <b>Ensure changes respect our unique places and environments</b>	
Performance Measure	Votes
Context-sensitivity metric (TBD)	6
Combined housing and transportation costs	2
Economic metric (TBD)	2
Percentage change in state funding for bike/ped	1
Percent undeveloped land used for transportation infrastructure	1
Land paved for transport facilities	1

<b>Goal 7</b> <b>Improve and develop planning tools</b>	
Performance Measure	Votes
Up to date travel behaving data	4
Back-test model at beginning of model cycle	3
Improve freight and visitor models	1
Review plan annually for updates	1

<b>Goal 8</b> <b>Seek ways to maintain and improve safe freight movement within and through the region</b>	
<b>Performance Measure</b>	<b>Votes</b>
Freight incidents	2
Travel time to essential markets	2
Number of enterprises "last mile"	2
Loading zone adequacy	1
Freeway segments with significant grades (TBD)	1
Truck hours of delay	1
Lane matching (number of companies)	-
Freight restrictions (off-peak delivery and pickup)	-
Miles of active vs inactive corridor (rail)	-

### Appendix E-7: Detailed Survey Responses

Respondent	What did you like about the workshop?	What would you improve?	What was the most interesting thing that you learned or experienced today?	How will the work today benefit the FBR MPO Plan process?
1	Facilitated great discussion, illustrated the utility of metrics.	Directions and actions worksheet could be more clear.	The availability of metrics and resources available for performance-based metrics.	Helps to refine goals and objectives, gives guidance on metric priorities.
2	The workshop was very well organized; it had a nice flow. It was very helpful to have the PMs already written down to begin the exercise.	I would add some standup up exercises to refresh.	Sharing different points of view and listening to different perspectives. I think it has been a meaningful exercise.	It will move the process forward.
3	Overall pacing was pretty good, somewhat slow at start. Coming to concrete results in form of metrics.	Introductory content only partly relevant to workshop.	Goal #6 is good at goal level, but needs work at objective and metric level. I kind of think the "objective" level isn't very helpful.	Give us a way to measure success. Thank you!
4	I liked the volume of work achieved.	The overall schedule to be more "on time"	Reinforced that goals, objectives, and action strategies and measures are exceedingly difficult to align.	It is essential to show where the process so far may not work.
5	Working in representative teams.	last exercise wasn't very useful; most actions are process-related; performance measures not really relevant	learning more about freight transportation	re-evaluate goals and objectives
6	Working in our groups. For me, I haven't worked extensively with some of these folks, so it was a good opportunity to get to know them and hear their input throughout the conversation.	NR	My goal or desire was to get a better idea of actual measurable and attainable measures and goals, and I feel that I did get closer to this.	It will be easier to develop our measures. It's easier to start with an existing list, rather than develop them from scratch.

Respondent	What did you like about the workshop?	What would you improve?	What was the most interesting thing that you learned or experienced today?	How will the work today benefit the FBR MPO Plan process?
7	Small group discussions. Many resources about MAP-21 and performance measures.	Incorporate some activity if possible! Lots of sitting!	Being able to sit in a small group with counterparts [city, RPO, SELC....] and discuss important issues and hear their thoughts.	Provide clarity moving forward with MTP.
8	Progress made on getting performance metrics for CTP.	NR	First time we heard about MAP-21 goals and need to align. Kinda wish we had considered them earlier.	Progress made on getting performance metrics for CTP.
9	Covered sooo much ground in one day	Tough to stay on schedule. Wish elected folks had been there	STARS could become objectives of new highway goal if we need it	Reduce need for 2-3 meetings; with menu of potential measures, the process went much faster than brainstorming from scratch.