



Memo 2: Identification of Potential Principles and Performance Measures

**Long Range Transportation Plan Update
East-West Gateway Council of Governments**

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OVERVIEW

This technical memo builds on Memo #1: Review of Existing Principles, which explored the interconnected nature of East-West Gateway’s (EWG) current Guiding Principles (Figure 1).

The primary focus of this analysis is to consider potential new or revised Guiding Principles for EWG, stakeholders, and the St. Louis community to consider as the Long-Range Transportation Plan (LRTP) is updated. In addition to highlighting potential new goals or Guiding Principles to consider, this exercise will consider applicable performance measures to determine the effectiveness of future Guiding Principles.

This memo assesses regional planning priorities, such as the OneSTL plan adopted in 2013, considers goals and priorities of peer Metropolitan Planning Organizations (MPOs), and seeks to better align EWG’s Guiding Principles with priorities identified in the Infrastructure Investment and Jobs Act (IIJA) of 2021, to capitalize on future federal funding opportunities.

This spring and summer, the project team will engage in a broad community engagement effort to gather input on EWG’s Guiding Principles and to understand what outcomes are most important and compelling to the public and stakeholders.

Figure 1: EWG’s Guiding Principles



REGIONAL PRIORITIES

OneSTL was developed in 2013 by EWG in partnership with a regional consortium. The plan provides a regional framework for sustainable development, with the vision of creating a prosperous, healthy, and vibrant St. Louis region. OneSTL is structured around five “regional opportunities” – economic development; social capital; blue, gray & green infrastructure; transportation; and local communities – and nine “themes.” These themes represent what residents, local government officials, representatives of non-profits, and regional leaders said they want for the future of the region, and include:

- Collaborative – Promote inclusive and on-going efforts that involve communication, cooperation, and action among local and regional leaders and residents.
- Prosperous – Coordinate economic development efforts to create high quality employment and development opportunities and build a diverse, innovative, and entrepreneurial economy.
- Distinctive – Maintain, develop, and enhance the unique places and communities in our region through investment that reflects local values, diversity, and character.
- Inclusive – Engage all citizens in regional civic and cultural life by providing quality, equitable services and opportunities.
- Green – Protect and enhance the quality of water, air, land, and biodiversity in order to maintain a healthy population, economy, and ecosystem.
- Prepared – Equip the region’s communities with the infrastructure, knowledge, communications, and partnerships to be safe and resilient.
- Connected – Develop and maintain a safe, accessible, multi-modal transportation system that connects local communities and links the region to the nation.
- Efficient – Promote regional energy and resource efficiency to maintain the health, safety, and economic vitality of our communities.
- Educated – Strengthen learning, education, and training opportunities and increase public support for the region’s education, research, arts, and cultural institutions.

The plan’s transportation goals are contained within the “Connected” theme, with six defined transportation goals:

- Goal 1: Utilize transportation assets to stimulate economic development
- Goal 2: Integrate transportation and land use planning
- Goal 3: Expand public transit accessibility and utilization
- Goal 4: Advance active transportation initiatives
- Goal 5: Effectively manage and maximize the efficiency of existing transportation assets
- Goal 6: Provide a safe and secure transportation system

Performance indicators associated with the “Connected” theme include: transportation choice (percent of workers commuting via walking, biking, transit, or rideshare); residential transit access (percent of households within ¼ mile of a transit stop); employment transit access (percent of jobs within ¼ mile of a transit stop); daily vehicle miles traveled (VMT) per capita;

bikeability (number of miles of bike facilities, separate and on road), complete streets (percent of local governments with complete streets ordinances), transit ridership (annual transit boardings system-wide), and transit-oriented development (number of destinations such as jobs, residences, and other resources of amenities within a ¼ mile or five minute safe and accessible walk at 20 stations). Targets have been set for some measures.

OneSTL's transportation goals are largely represented within EWG's existing Guiding Principles. However, several topics or issues can be reinforced:

- OneSTL recommends the integration of transportation and land use planning, which is implied in EWG's Guiding Principles but is not specifically stated (such as "Foster a Vibrant Downtown and Central Core" and "Support Neighborhoods and Communities").
- OneSTL specifically promotes the advancement of "active transportation," defined as infrastructure that supports walking and biking, while EWG's most closely related Guiding Principle is more generic ("Provide More Transportation Choices").
- OneSTL includes language to "maximize the efficiency" of existing transportation assets, which relates to but is worded differently than EWG's Guiding Principle addressing congestion and reliability ("Support a Diverse Economy with a Reliable System").

OneSTL's other themes also have linkages to transportation planning. Some of these links are already apparent. The "Distinctive" theme, for instance, includes a goal "Invest in existing communities", which relates to the Guiding Principles "Foster a Vibrant Downtown and Central Core" and "Support Neighborhoods and Communities." The "Green" theme also includes goals ("Provide increased access to nature for all citizens" and "Exceed clean air standards") that overlap with EWG's Guiding Principle "Protect Air Quality and Environmental Assets". Other topics and goals identified under other themes could be considered further for incorporating into Guiding Principles, such as:

- "Increase inter-jurisdictional cooperation" (Collaborative theme)
- "Reduce racial disparities in economic opportunities" (Prosperous theme)
- "Foster active and healthy lifestyles" (Distinctive theme)
- "Reduce combined housing and transportation costs" (Distinctive theme)
- "Improve access to opportunities" (Inclusive theme)
- Resiliency-related goals, such as "Protect communities from known risks of natural disaster by focusing on prevention" (which includes addressing climate change mitigation and adaptation), "Strengthen capabilities for shared disaster response", "Respond quickly to emergencies", and "Enable efficient and effective recovery" (Prepared theme)
- "Improve access to fresh, local food" (Efficient theme)
- "Increase public understanding of sustainability and healthy life-style choices" (Educated theme)

While not transportation-specific, these goals could potentially be incorporated into or called out more explicitly as part of new or revised Guiding Principles.

FEDERAL TRANSPORTATION PRIORITIES

Infrastructure Investment and Jobs Act

The IIJA – also known as the Bipartisan Infrastructure Law – provides significant new investments in transportation and other infrastructure (including clean drinking water and wastewater infrastructure, access to reliable high-speed internet, and clean energy investments). The law creates more than a dozen new highway programs focused on safety, bridges, climate change, resilience, and project delivery; the largest federal investment in passenger rail since the creation of Amtrak; and the largest federal investment in public transit ever.

Many of the priorities highlighted in the IIJA relate to EWG’s existing Guiding Principles and there are notable existing connections. At the same time, the IIJA highlights some additional priorities and topics warranting consideration for possible incorporation into revised Guiding Principles or more explicit mention. These key topics in the IIJA include climate change mitigation, resiliency, and equity. The table below lists key transportation priorities from the IIJA and demonstrates how they might be integrated into EWG’s current Guiding Principles or developed into new principles.

IIJA Transportation Priorities ¹	Integration with EWG’s Guiding Principles
<p>Repair and rebuild roads and bridges with a focus on climate mitigation, resilience, equity, and safety for all users.</p> <p>Legislation includes the Safe Streets and Roads for All Program that supports projects to reduce traffic fatalities.</p>	<p>This priority can integrate into a current EWG Guiding Principle, such as preserving and maintaining the existing system or promoting safety and security. However, it also highlights the value of considering new principles focused on climate change mitigation, resilience and/or equity.</p>
<p>Improve transportation options and reduce greenhouse emissions through public transit investment.</p>	<p>This priority can integrate into a current EWG Guiding Principle, such as supporting public transportation, fostering a vibrant downtown & central core, providing more transportation choices, or protecting air quality and environmental assets.</p> <p>However, there is a climate change mitigation aspect to this priority, indicating that it could be integrated into a new principle around either topic.</p>
<p>Upgrade airports and ports to strengthen the supply chain.</p>	<p>This priority can integrate into a current EWG Guiding Principle, such as strengthening intermodal connections.</p>

¹ The White House. November 6, 2021. “Fact Sheet: The Bipartisan Infrastructure Deal.” <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/>

Invest in passenger rail	This priority can be integrated into an existing Guiding Principle, such as supporting public transportation, supporting neighborhoods & communities, fostering a vibrant downtown & central core, or providing more transportation choices.
Build a national network of electric vehicle (EV) chargers	This priority can integrate into a current EWG Guiding Principle, such as protecting air quality and environmental assets. However, it could also be elevated as a strategy or considered as part of a new or revised principle addressing environmental sustainability, climate change mitigation, or innovative technology.
Make infrastructure resilient against the impacts of climate change, cyber-attacks, and extreme weather events	This priority can integrate into a current EWG Guiding Principle, such as preserving and maintaining the existing system or promoting safety and security. However, it can also be a part of a new principle or principles focused on resilience.

The IJA includes many changes to existing apportioned highway programs, addressing new goals and priorities. For instance, the National Highway Performance Program (NHPP) includes an additional program purpose, “to provide support for activities to increase the resiliency of the National Highway System [NHS] to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters” and adds new eligible projects focused on resiliency improvements and activities to protect the NHS from cybersecurity threats.² The law also includes new provisions designed to support equity. For instance, the Congestion Mitigation and Air Quality Improvement (CMAQ) Program requires, to the maximum extent practicable, prioritizing disadvantaged communities or low-income populations when obligating funds to reduce PM2.5 emissions.³

The IJA also includes new formula programs focused on climate and resilience, including a new formula Carbon Reduction Program to fund projects to reduce transportation emissions; the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program, to support resilience improvements, which includes both formula funding and discretionary funds; and the National Electric Vehicle Formula Program. It also includes new discretionary grant programs, such as the Reconnecting Communities Pilot Program, which provides funding to remove, retrofit, or mitigate highways or other transportation facilities that create barriers to community connectivity.⁴

² Public Law 117-58, Section 11105

³ Public Law 117-58, Section 11115

⁴ For more information, see FHWA, Overview of Highway Provisions under the Bipartisan Infrastructure Law at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/summary.cfm> and FTA, Bipartisan Infrastructure Law Program information at: <https://www.transit.dot.gov/BIL>.

Metropolitan Transportation Planning Factors

Federal legislation outlines 10 factors that must be considered in the metropolitan transportation planning process.⁵ These factors are:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase accessibility and mobility of people and freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
- Enhance travel and tourism.

Addressing these factors is required by law and many planning agencies use them as a basis for developing regional goals in their LRTPs. EWG may wish to look at these planning factors as it works with regional stakeholders to consider modifications to the Guiding Principles.

Similar to EWG's guiding principles, the planning factors address economic vitality, safety and security, accessibility, environmental sustainability, freight connectivity, preserving the existing transportation system, and improving reliability. Several planning factors are less directly connected to EWG's existing principles and could be considered as the basis for, or as part of, revised principles, such as promoting efficient system management and operation, improving resiliency, and enhancing travel and tourism.

STATE DOT AND MPO LONG-RANGE PLAN GOALS

National Review of State and Regional Plans

As part of this analysis, the project team reviewed recent long-range plans from state departments of transportation (DOTs) and MPOs across the country. This review included identifying goals and performance measures used by these transportation agencies. Like EWG,

⁵ 23 CFR 450.306 (b)

many state DOTs and MPOs include goals or principles focused on safety, supporting the economy, maintaining transportation infrastructure, and improving transportation choices.

Several state DOTs and MPOs include goals or principles that can be considered for EWG's Guiding Principles update. For example, the North Carolina DOT includes a goal about improving technology in its long-range plan, including a strategy to "enable smart and innovative statewide technology solutions."⁶ Nevada DOT has a goal to "foster sustainability."⁷ The goal's definition shares connections with EWG's "protecting air quality and environmental assets" Guiding Principle, but focuses on integrating sustainable planning practices and policies.

The Mid-Ohio Regional Planning Commission (MORPC), which is anchored by Columbus, is a prime example of an agency connecting its goals and objectives with performance measures and targets. MORPC's long range plan includes six goals with various objectives that each have associated performance targets for 2025 and 2050. Goal areas include "health, safety, & welfare," "sustainable neighborhoods," and "regional collaboration." The health, safety, and welfare goal is connected to equity. One objective is to "minimize the difference in trip travel time for disadvantaged populations relative to regional trip travel time." The 2025 target for this is to have the average trip travel time for disadvantaged populations be within 5% of the regional average time.⁸

Caltrans specifically has goals for both climate and equity. Both goals have objectives and performance measures connected to them. For the climate goal, one performance measure is the "number of system improvements addressing climate vulnerability." For the equity goal, measures include "access to destinations by income quintile and race" and "number of communities and community-based organizations meaningfully engaged in development of plans and projects."⁹

As evidenced by this analysis, long range transportation plans produced recently demonstrate more emphasis on topics like climate and equity than previous LRTPs.

Review of Peer MPOs

To inform this memo, the project team reviewed goals and principles of three of EWG's Midwest peer MPOs: Chicago Metropolitan Agency for Planning (CMAP), Ohio-Kentucky-Indiana Regional Council of Governments (OKI), which encompasses Cincinnati, and the Mid-America Regional Council (MARC), serving the Kansas City metropolitan area.

CMAP's most recent long range transportation plan (ON TO 2050), was adopted in 2018 and is informed by three overarching principles:

- Inclusive Growth: Growing our economy through opportunity for all.
- Resilience: Preparing for rapid changes, both known and unknown.

⁶ North Carolina DOT. February 15, 2021. "NC Moves 2050." <https://www.ncdot.gov/initiatives-policies/Transportation/nc-2050-plan/Documents/nc-moves-final-plan.pdf>

⁷ Nevada DOT. November 2018. "One Nevada Transportation Plan." <https://www.dot.nv.gov/projects-programs/road-projects/onenvplan>

⁸ MORPC. May 2020. "2020-2050 Columbus Area Metropolitan Transportation Plan." <https://www.morpc.org/mtp2050/>

⁹ Caltrans. February 2021. "California Transportation Plan 2050." <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/ctp-2050-v3-a11y.pdf>

- **Prioritized Investment:** Carefully target resources to maximize benefit.

In comparison the EWG's Guiding Principles, CMAP's principles place an emphasis on inclusion and infrastructure planning that can adapt to future technological and climate-based disruptions. Additionally, ON TO 2050 identifies three mobility goals: a modern multimodal system that adapts to changing travel demand, a system that works better for everyone, and making transformative investments.¹⁰

OKI's most recent LRTP was adopted in 2020, and features the following goals: safety, infrastructure condition, mobility and congestion, environmental sustainability, and economic vitality.¹¹ EWG's existing Guiding Principles encompass these goals, although the word "sustainability" is not part of the existing EWG Guiding Principles.

Connected KC 2050, MARC's most recent LRTP, was adopted in 2020 with a focus on five key outcomes: access to opportunity, public health and safety, healthy environment, transportation choices, and economic vitality.¹² Compared to EWG's Guiding Principles, MARC's goals are framed as very broad desired outcomes. Connected KC 2050 also links these outcomes to related performance measures. For example, the access to opportunity goal lists performance measures for on-time transit performance and transit asset management. OKI uses both the required national performance measures and additional region-specific performance measures, such as on-time transit performance and VMT per capita.

IMPLICATIONS FOR EWG GUIDING PRINCIPLES

EWG's existing Guiding Principles provide a clear and well-defined set of goals for the region's transportation plan, with associated performance measures for use at both the regional level to track system performance and at the project-level to support investment decision-making. Based on this review of regional priorities in the OneSTL Plan, national goals and priorities, and a review of goals used by other MPOs and states, there appear to be several topics or issues that the region may wish to consider as it seeks to update the Guiding Principles. Some of these goal areas are closely related to existing Guiding Principles and might involve revisions to wording, while others bring in different concepts and might suggest adding entirely new Principles.

Specifically, topics for further consideration in updating Guiding Principles include:

- **Resiliency** – Resilience is not directly addressed in the existing Guiding Principles, although it has connections to several, such as "Promote Safety and Security" and "Preserve and Maintain the Existing System". Resiliency is one of the planning factors that must be considered in metropolitan transportation plans and has been highlighted as a priority in the IIJA, with substantial new funding available to address transportation resiliency. Over the past decade, the public also has become more aware of increases in severe weather and impacts to the transportation system. One challenge, however, is that performance measures for resiliency are generally not very well developed and

¹⁰ Chicago Metropolitan Agency for Planning. ON TO 2050. <https://www.cmap.illinois.gov/2050/about>

¹¹ Ohio-Kentucky-Indiana Association of Governments. 2050 OKI Metropolitan Transportation Plan. <https://2050.oki.org/>

¹² Mid-America Regional Council. ConnectedKC 2050. <https://connectedkc.org/about-the-plan/>

often have data gaps. Past explorations of performance measures for resiliency have identified a range of possible measures, including measures of impact (e.g., hours of roadway lane miles closed due to flooding or other weather conditions), vulnerability (e.g., percent of passenger miles on facilities highly vulnerable to severe weather impacts), or design (e.g., percent of culverts that are hydraulically adequate for future precipitation events). Developing a new Guiding Principle related to resiliency would likely require some concerted discussions about appropriate performance measures and may require additional data analysis.

- **Accessibility** – Accessibility is key purpose of transportation and often viewed as the ultimate outcome of interest since it encompasses issues related to the connections between transportation, jobs, housing, and development patterns. While the current Guiding Principles do not explicitly mention accessibility, the system performance measure used for “Support Neighborhoods & Communities” is “percent of residents living within a reasonable travel time to work”, which is a measure of accessibility. The OneSTL plan includes “Improve access to opportunities” as a goal under the “Inclusive” theme and utilizes performance measures address housing transit accessibility and employment transit accessibility to support goals to “Integrate transportation and land use planning” and “Expand public transit accessibility and utilization.”
- **Affordability** – The affordability of transportation is not specifically called out in the existing Guiding Principles, nor in many of the documents reviewed, but is sometimes identified in transportation plans as a contributing factor to overall accessibility. “Reduce combined housing and transportation costs” is listed as a goal in OneSTL.
- **Efficient System Management and Operations** – Efficient system management and operations is one of the Federal planning factors. Efficiency of transportation system management and operations is closely tied to concerns about connectivity and intermodal connections, as well as congestion and system reliability. As a result, the efficient system management and operations is linked to existing Guiding Principles, “Support a Diverse Economy with a Reliable System” and “Strengthen Intermodal Connections”, which use performance measures related to congestion and reliability. Still, EWG may wish to consider adjusting wording to focus on reliability or efficiency of the transportation system, which may address multiple modes of transportation.
- **Health** – Public health is highlighted as a key outcome in OneSTL under the goal “Foster active and healthy lifestyles” (under the “Distinctive” theme) and is also described under the “Efficient” them, which focuses on promoting regional energy and resource efficiency “to maintain the health, safety, and economic vitality of our communities.” MPOs around the country also have begun to put more emphasis on public health as an outcome of transportation planning and investment decision-making. Health is closely connected to existing Guiding Principles to “Protect Air Quality and Environmental Assets” and “Promote Safety and Security” and relates to “Provide More Transportation Choices.” It would be worth considering whether health should be more explicitly identified as a Guiding Principle or more strongly incorporated into one of the existing principles.
- **Support Active Transportation** – Bicycling, walking and micromobility are travel modes. However, the region may wish to consider developing a Guiding Principle

focused directly on supporting active transportation, just as there is an existing goal focused on “Support Public Transportation.” This could be considered as part of a revision to the existing Principle “Provide More Transportation Choices” and should be considered in the context of other goals that address safety, improving access to the central core, and connecting communities.

- **Environmental Sustainability and/or Climate Change Mitigation** – While the region has an existing Guiding Principle “Protect Air Quality and Environmental Assets”, the existing principle suggests a focus on local air quality and environmental resources, whereas there is a growing appreciation of the issue of global climate change and broader efforts to reduce energy consumption and reduce greenhouse gas (GHG) emissions. Environmental sustainability is one of the national goals for the Federal-aid highway system identified in Federal code, and reducing GHG emissions is strongly emphasized in the IIJA through new programs and funding for investments in electric vehicle charging infrastructure and other carbon reduction strategies that go beyond traditional transportation mobility investments.
- **Community Connectivity / Livability / Quality of Life** – While these concepts are closely related to “Support Neighborhoods & Communities” and “Foster a Vibrant Downtown & Central Core”, the terms “connectivity” and/or “livability” may be valuable to consider in relation to updating the Guiding Principles, particularly given the IIJA’s Reconnecting Communities program and other efforts focusing on quality of life. These concepts, however, should be considered with recognition that “Connected” is an overall theme of OneSTL and the long-range transportation plan, Connected2050 and so may be a concept elevated above the Guiding Principles. Moreover, connectivity, livability, and quality of life are difficult to measure, and often are tied to performance measures related to other goals, such as accessibility and modal choices.
- **Collaboration** – Collaboration is a key theme of OneSTL and could be considered as a Guiding Principle. Collaboration, however, is often thought of as part of a process, rather than as an outcome. If included as a guiding principle, measures of collaboration would need to be defined, and this can be somewhat challenging. OneSTL uses a measure, “number of cooperative agreements and inter-jurisdictional programs established by local governments,” which is helpful but quite different than many of the outcome-focused performance measures used in the plan.
- **Equity** – Equity is a strong theme regionally in OneSTL and in Federal initiatives focused on transportation. OneSTL has a theme “Inclusive”, focusing on engaging all citizen in regional civic and cultural life by providing quality, equitable services and opportunities, and includes a goal “Reduce racial disparities in economic opportunities” under the “Prosperous” theme. The IIJA and recent Executive Orders¹³ put an increased focus on equity and ensuring that benefits of programs accrue to historically disadvantaged or marginalized populations. In this context, equity may be considered as

¹³ Executive Order (EO) 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government; EO 14031: Advancing Equity, Justice, and Opportunity for Asian Americans, Native Hawaiians, and Pacific Islanders; and EO 14008, Tackling the Climate Crisis at Home and Abroad, which created the government-wide Justice40 Initiative, with a goal that certain Federal investments have 40 percent of benefits flow to disadvantaged communities.

a possible new Guiding Principle with its own set of performance measures. Alternatively, equity could be considered a lens for evaluating other Guiding Principles, recognizing that equity can be assessed in relation to a full array of system outcomes, from safety to travel choices, jobs access, and infrastructure conditions.

Other issues that might be considered for elevation include **Enhancing Travel and Tourism**, which is one of the Federal transportation planning factors, and connects closely to economic vitality; and **Advancing Innovative Technology**, which is emphasized in Connected2045. Several state DOTs and MPOs include goals focused on improving technology such as “enable smart and innovative statewide technology solutions.”¹⁴ This could also be expanded to consider “cleaner” transportation options, such as electric vehicles or hydrogen gas. Technology advancements may be viewed, however, as part of a strategy to achieve desired system outcomes rather than as an outcome itself, and there are some challenges to developing system-level performance measures.

In order to develop Guiding Principles that are meaningful and reflective of the aspirations of the St. Louis region, the existing principles can be examined to assess to what extent they could be revised to best align with goals and principles identified in existing regional plans, including OneSTL and the STL 2030 Jobs Plan produced by Greater St. Louis, Inc. For instance, these plans may offer some options to adjust Principles such as the following:

- **Protect Air Quality and Environmental Assets:** Align with OneSTL goals.
- **Support Quality Job Development:** Connect with themes and goals from plans produced by Greater St. Louis, Inc.
- **Support a Diverse Economy with a Reliable System:** Connect with themes and goals from plans produced by Greater St. Louis, Inc.

Over the course of this review, the research team has identified several concepts that could be incorporated into new or revised Guiding Principles. Over the coming months, the project team will work with EWG to consider how these concepts relate to existing Guiding Principles and each other and will explore various possible ways to frame candidate principles. The project team will work with EWG to engage a broad and diverse array of stakeholders and community members to provide input on Guiding Principles and what is most important to them. The public and stakeholder engagement, along with exploration of potential performance measures, will be used to recommend a set of revised Guiding Principles for Connected2050 and beyond.

¹⁴ North Carolina DOT. February 15, 2021. “NC Moves 2050.” <https://www.ncdot.gov/initiatives-policies/Transportation/nc-2050-plan/Documents/nc-moves-final-plan.pdf>