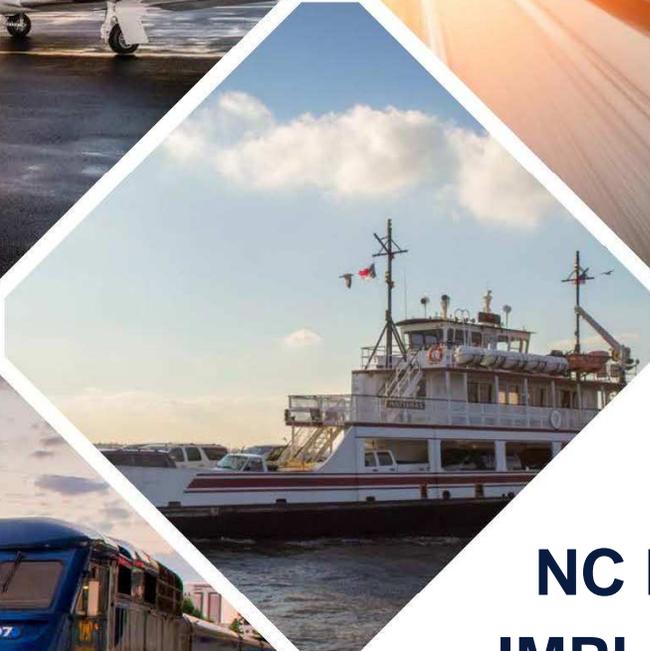
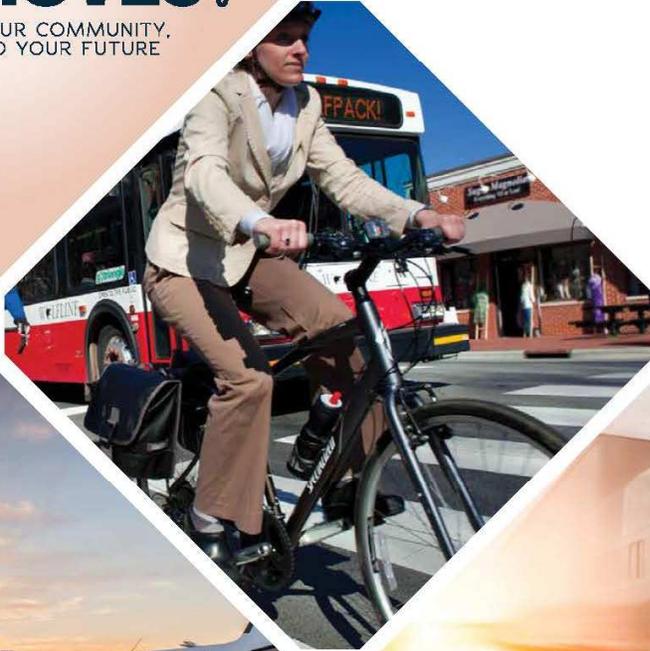




NC MOVES 2050

CONNECTING YOUR COMMUNITY,
YOUR VOICE AND YOUR FUTURE



NC MOVES 2050 IMPLEMENTATION PLAN

February 2021

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1. OVERVIEW AND ORGANIZATION

1.1 IMPLEMENTATION PLAN PURPOSE

The success of any planning process is defined by the outcomes which achieve, measure and report progress towards stated plan goals and objectives. The completion of N.C. Department of Transportation’s 30-year plan, NC Moves 2050, is therefore a starting point for NCDOT to commit to and establish a process that guides, sustains and operationalizes plan recommendations. Implementing a long-range transportation plan is a worthy endeavor that requires a sustained, multi-year approach to achieve progress and yield results such as starting a new planning practice or enabling policies to launch new programs or transportation investment. At the same time, implementation should proceed in a practical manner, which builds on existing planning activities and involves staff expertise without being overly burdensome or prescriptive.

NC Moves 2050 is designed with effective implementation in mind. The plan assigns 32 actions within eight overall strategies into one of three tiers based on a set of criteria, subject matter expertise and partner and stakeholder feedback. Although each action is important, not all can be implemented simultaneously. Some are ready to be implemented soon while others need more time and more resources, expanded partnerships, and changes to traditional roles, responsibilities or policies to fully implement.

Successful plan implementation should focus on a manageable process to carry the plan forward and serve near-term agency and external partner interests.

Although NC Moves 2050 was not designed to foresee the level of change due to a global pandemic, the scenario planning process is even more relevant and important as a result of COVID-19. The disruption associated with the pandemic and other drivers of change are altering the way people value mobility and make transportation choices, forcing transportation agencies to adapt operations, management and investment in transportation systems. Plan implementation will help NCDOT take steps to prepare and navigate other unforeseen changes.

This implementation plan is a companion document to the NC Moves 2050 Plan. It presents the process and structure to support the NC Moves 2050 Tier 1 actions – those most likely to start soon and be implemented in the next decade. The process followed by NCDOT and partners to develop the Tier 1 actions and other plan recommendations are outlined in Figures 1 and 2.

FIGURE 1: NC MOVES 2050 DEVELOPMENT PROCESS

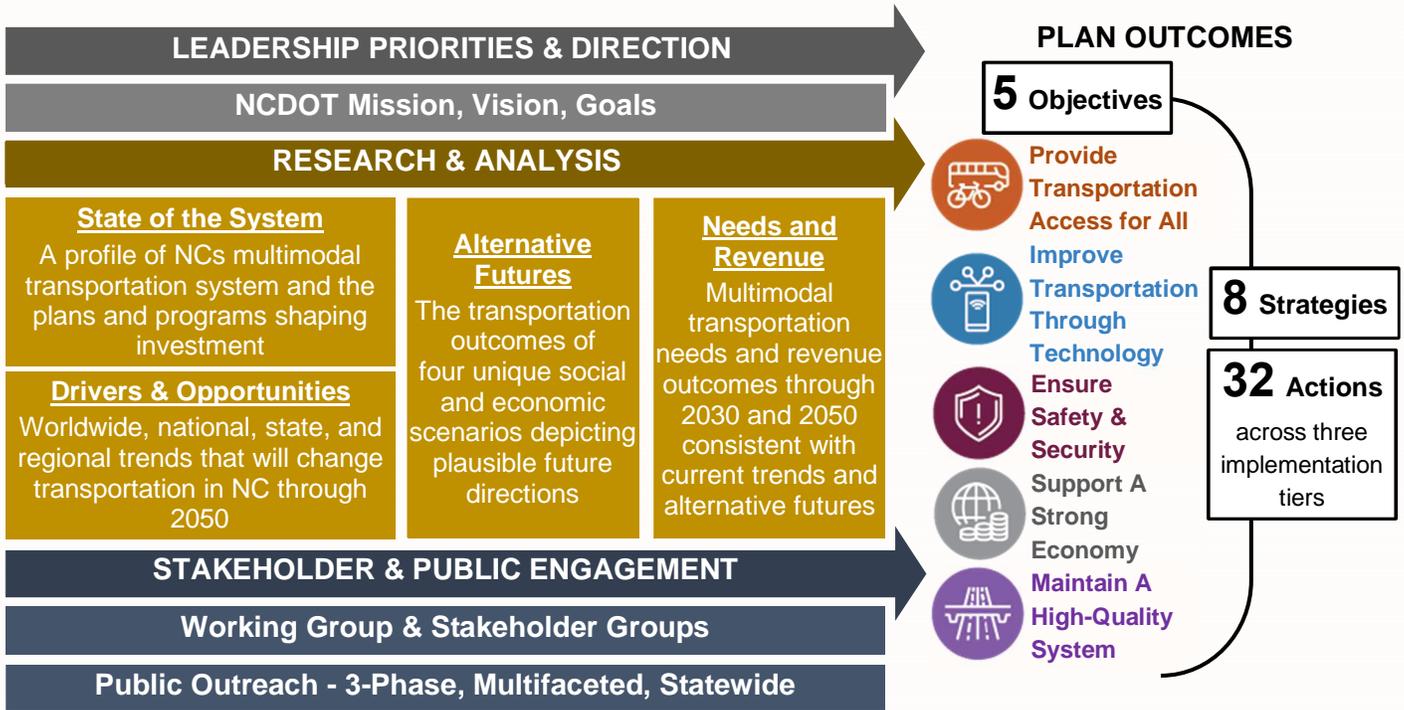


FIGURE 2: HIERARCHY OF PLAN OUTCOMES



The implementation plan also serves as a roadmap to structure and guide NCDOT leadership, staff and key partners to implement the plan and guide any future updates. The implementation process is supported by the following **seven activities** described in detail in this document:

- Prioritize Tier 1 actions
- Incorporate lessons learned from peer states
- Engage and involve external partners and leverage internal resources
- Inform future NC Moves plan updates
- Provide policy guidance to develop other plans
- Communicate progress and performance
- Evolve policy and practice to address multiple plan objectives

2. TRANSITION TO PLAN IMPLEMENTATION

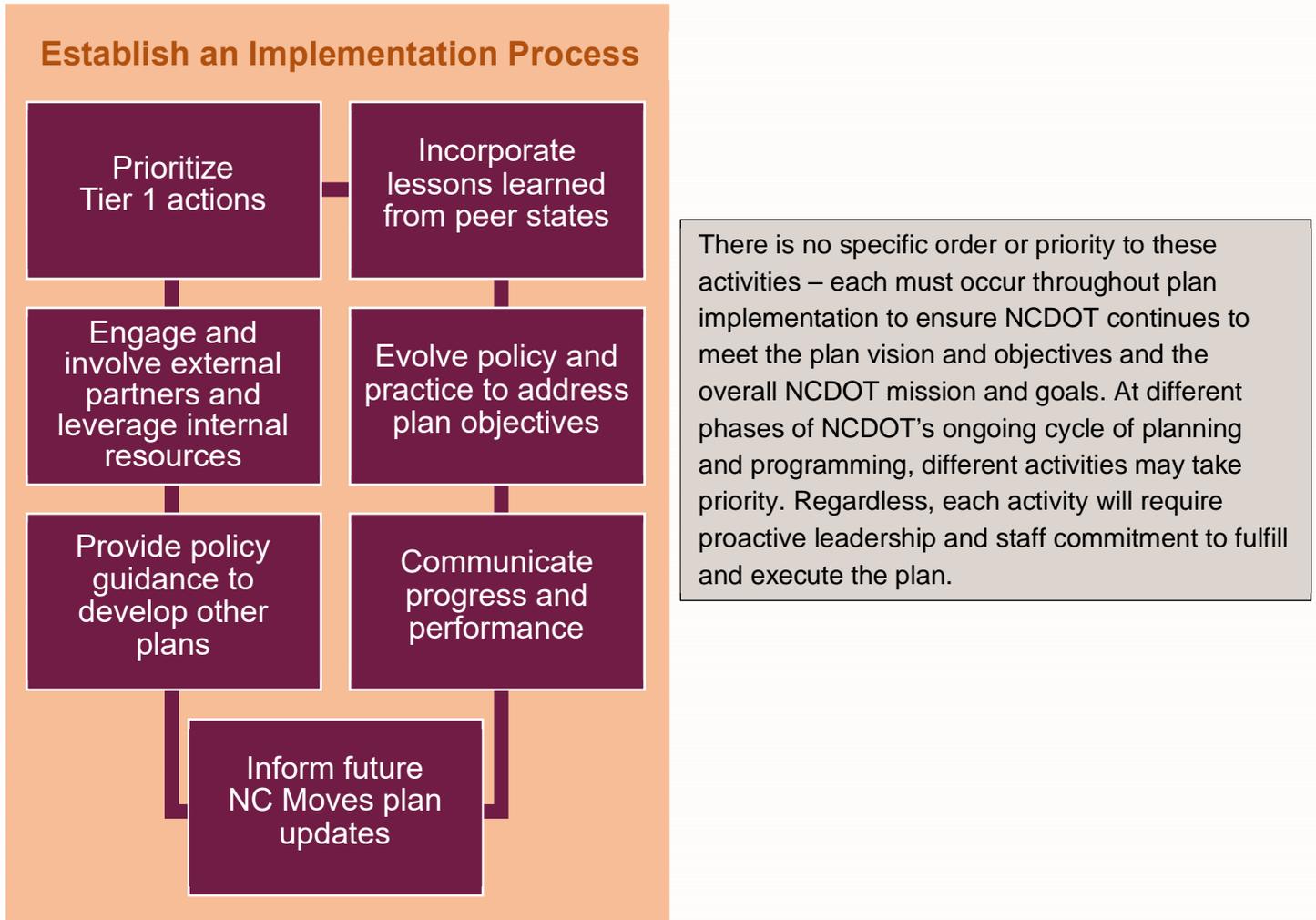
NC Moves 2050 is defined by five objectives, eight strategies and 32 actions built from over two years of rigorous analysis and engagement. The input of professional staff, key agency stakeholders, subject matter experts and North Carolina citizens and businesses shaped and refined the development of the objectives, strategies and actions. These efforts form a solid foundation for plan implementation. NCDOT can use plan adoption and rollout as a focal point to transition toward implementation and signal commitment to the process. Plan rollout activities – specifically the plan website and communication materials to the Board of Transportation, state and local elected officials and other key stakeholders – can set early expectations and describe actions that set implementation in motion. The transition to plan implementation could occur through the following steps.

- **Establish a dedicated implementation page on the NC Moves 2050 website** – The NC Moves 2050 website received nearly 30,000 unique visits (i.e., the number of individual or first time visitors to specific pages on the site) over the past two years and is an effective platform to convey plan progress and repository for plan resources. It is the ideal location to maintain the visibility of NC Moves 2050 and draw attention to the implementation process, progress, activities and accomplishments. This step would leverage a communication resource already familiar to numerous planning partners, stakeholders and state/local agencies.
- **Convey leadership expectations for implementation** – NCDOT’s leadership team is frequently asked to provide remarks at conferences, events and agency meetings. The leadership team can highlight the importance of plan implementation during these opportunities, which is especially critical at the beginning of the implementation phase. A unified, consistent message heard frequently by internal and external audiences heightens expectations and conveys a level of accountability to use NC Moves 2050 as a tool to make planning practice and policy changes. In addition, participation of NCDOT leadership team members at the proposed Implementation Advisory Group meeting (Section 1.3.3) can also help stress the importance of plan implementation.
- **Form an internal NCDOT team responsible for leading implementation** – Staff in the NCDOT Transportation Planning Division who led NC Moves 2050 Plan development can be tasked with leading implementation. Formalizing this role provides a point of contact for NCDOT staff and external partners and supports agency accountability to transition to a formal implementation process. A team within the Transportation Planning Division would be responsible for facilitating the proposed Implementation Advisory Group and coordinating with internal NCDOT resources on Tier 1 actions (Section 1.3.3).

3. ESTABLISH AN IMPLEMENTATION PROCESS

Figure 3 presents seven activities to support, formalize and establish an implementation process to advance NC Moves 2050. The rest of this implementation plan describes how each activity supports implementation and provides NCDOT leadership, staff and external partners with a framework to operate within until the next plan update. Establishing a process would cement the use of NC Moves 2050 (and future plan updates) as “living documents” that help NCDOT adapt, prepare and navigate future changes and uncertainties.

FIGURE 3: IMPLEMENTATION PLAN ACTIVITIES



3.1 PRIORITIZE TIER 1 ACTIONS

As the NC Moves 2050 Strategies and Actions Technical Memo indicates, 32 actions are proposed across three tiers based on potential timing and priority for implementation. Figure 4 presents recommended actions by tier with implementation spanning from 10 to 30 years. Careful subject matter expert review and input from stakeholders identified 16 “Tier 1” actions recommended for implementation within the next decade. Although all 32 actions are important, Tier 1 actions support short-term changes that help make North Carolina’s transportation system resilient to long-term trends, including demographic, economic and technological forces.

Tier 1 actions offer measurable transportation benefits and responses to these trends (outlined in NC Moves 2050) which otherwise may grow to disrupt transportation services and system management. However, it is not realistic to think all 16 Tier 1 actions can be implemented at once. While some of these actions are already underway, others need additional study or resources (data, tools and partnerships) to begin. Figure 5 presents questions that can further screen and help prioritize Tier 1 actions for readiness, resource needs and risk assessment as a starting point for implementation.

FIGURE 4: NC MOVES 2050 ACTIONS BY TIER



TIER 1: NEXT 10+ YRS	TIER 2: NEXT 20+ YRS	TIER 3: NEXT 30+ YRS
<p>CONTINUE and COMMIT:</p> <p>These actions are most likely to be implemented and show measurable benefits over the next decade. While some of these actions are already being implemented, or planning or strategy development is underway, each will require ongoing or new commitment of staff and resources to facilitate implementation. The actions will need to be prioritized to leverage similar ongoing initiatives and ensure efficient use of resources.</p>	<p>START to PLAN:</p> <p>Some planning is already underway for actions in Tier 2 and Tier 3. As NCDOT succeeds in accomplishing actions in Tier 1 and continues, along with MPOs and other partners, strategic long-range planning, resources can be moved to address initial steps to implement these actions. This includes ongoing and future studies on the Strategic Transportation Corridors (STCs), MPO long-range plans, future NCDOT modal plans, and NCDOT responses to initiatives, executive orders, or new legislation.</p>	

FIGURE 5: TIER 1 IMPLEMENTATION PLAN ACTIVITIES

Objective	ID	Action
 Connect Communities to Statewide Opportunities	M2	Conduct a statewide vulnerability assessment of transportation users with mobility challenges.
	M3	Accelerate demand response and flexible multimodal strategies to meet the needs of an aging population and residents with disabilities.
	M5	Implement multimodal solutions that improve connections to major transportation terminals, destinations and distribution centers.
 Improve Transportation through Technology	T1	Promote internal and external innovation within NCDOT and build partnerships with academia and the private sector to research, pilot and implement emerging technology.
	T3	Utilize the existing Strategic Transportation Corridors (STCs) as priority "smart" corridors.
 Ensure Safety and Security	S1	Enhance collaboration and partnerships with agencies and stakeholders that foster safety awareness and law enforcement.
	S2	Develop and implement new multimodal safety policy and standards that focus on public safety.
	S3	Research and invest in technology that can be used to reduce crashes, enhance crash data, monitor risky driver behaviors and promote safety for all users.
 Support a Strong Economy	E5	Advance channel deepening and technology related operational improvements for the NC State Ports Authority
	E7	Invest in infrastructure capacity and connectivity to relieve freight bottlenecks and disperse freight demand, enhancing network efficiency.
	E9	Establish partnerships and resources to prepare, equip and build a 21st century ready transportation workforce.
	E12	Support development and growth of dual enrollment programs to facilitate entry into specialized transportation skills and careers.
 Maintain a High-Quality System	R1	Incorporate and integrate risk and resiliency considerations across transportation activities – from long-range planning through operations.
	R2	Identify and prioritize multimodal transportation improvements that enhance system performance and reliability.
	R3	Standardize, measure and report asset management practices that advance transportation infrastructure resilience.
	R4	Support community-based resiliency approaches that inform NCDOT practices.

Prioritize Actions

Action achievable in the next 1-2 years under NCDOT control? Or achievable in the next 3-5 years through external partner support?

Action driven by a federal or state requirement timeline?

Action resilient to administrative changes or disruptive events?

Action requires specific resources (particular data, tools or partnerships) to launch?

Action has a clear champion and assigned NCDOT business unit or external partner role?

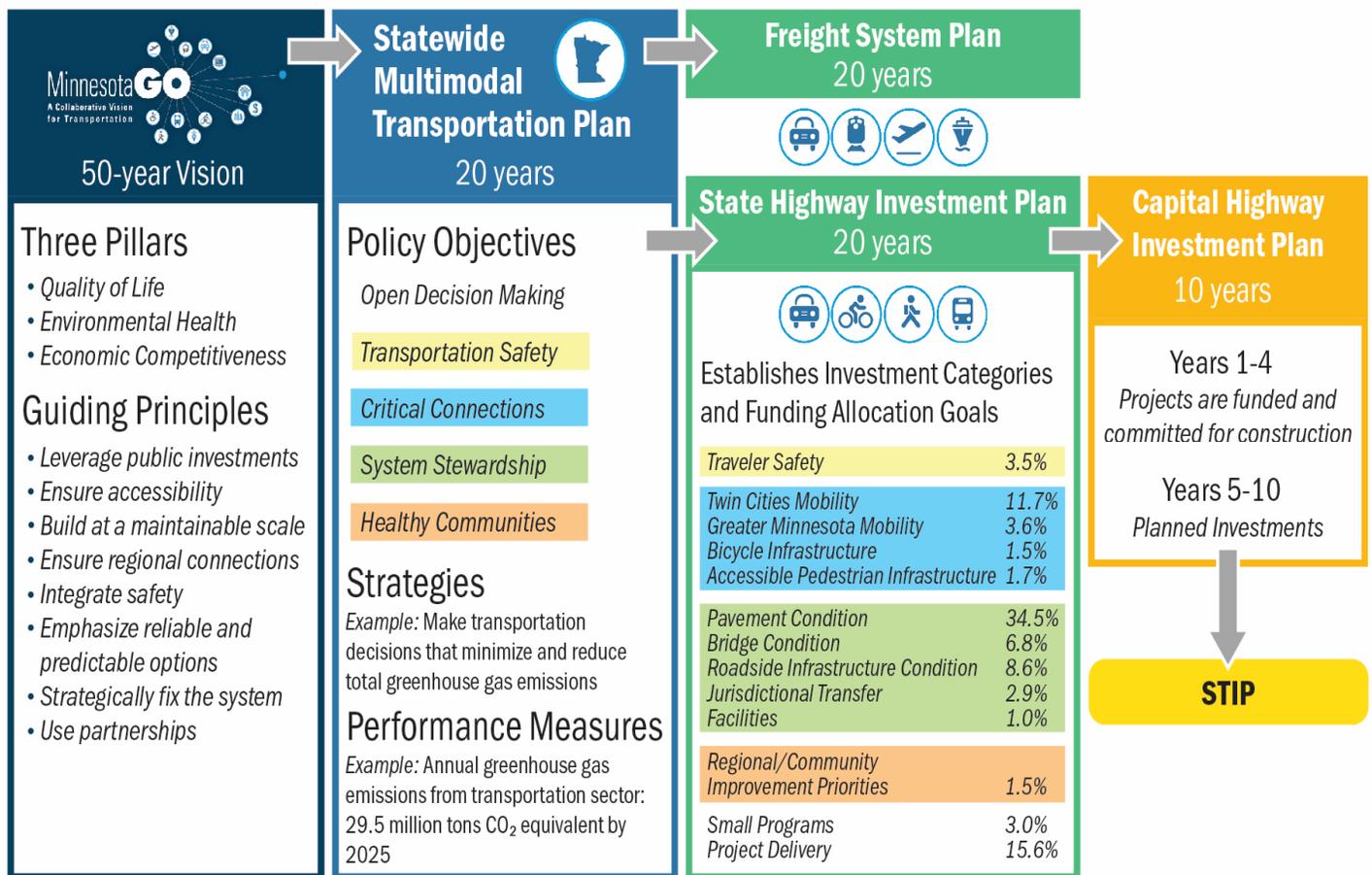
3.2 INCORPORATE LESSONS LEARNED FROM PEER STATES

NCDOT may benefit from considering some of the practices used by Minnesota DOT (MnDOT) and Arizona DOT (ADOT), two agencies who have completed similar processes, to align their decision making with the policies recommended in their long-range plans. Both states' planning processes include elements that provide an intermediate step that helps link policy, planning and project selection, as further described below.

3.2.1 MINNESOTA DOT

As shown in Figure 6, Minnesota's long-range plan is similar to NC Moves 2050 in that it is built on a long-range vision and a 20-year Statewide Multimodal Transportation Plan (SMTP) that outlines policy objectives and strategies. However, MnDOT's 20-year plan also includes a set of performance measures that can be used to evaluate progress in carrying out strategies.

FIGURE 6: MINNESOTA DOT'S PLANNING AND PROGRAMMING LINKAGE



Note: Full range of MnDOT's modal plans not shown here. The SMTP is informed by the same "family of plans" as NC Moves 2050, including a Pedestrian Plan, Bicycle Plan, Transit Investment Plan, Aviation Plan, Rail Plan, and Ports and Waterways Plan. As indicated in Figure 6, the Highway Safety Improvement Program (Should this be HSIP or State Highway Investment Plan?) is developed with consideration of the modal plans for transit, pedestrians, and bicycles, and the state Freight System Plan considers the modal plans for aviation, rail, and ports and waterways. Source: WSP

MnDOT’s “family of plans” is developed using the objectives and strategies of the multimodal long-range plan as guidance for each modal plan, as is proposed for NC Moves 2050. In turn, those individual modal plans are blended into two 20-year system plans: one for freight and the other for highways.

What is particularly notable in terms of implementation is that MnDOT’s 20-year Strategic Highway Investment Plan (SHIP) establishes specific funding goals for each investment category. As shown in Figure 6, the SHIP investment categories are tied directly to the long-range plan’s policy objectives. For example, the plan’s “Critical Connections” objective is translated into investment categories for Twin Cities mobility, Greater Minnesota mobility, bicycle infrastructure and accessible pedestrian infrastructure each with a recommended percentage for investment over the next 20 years. These recommended funding percentages are used as guideposts when MnDOT selects projects for its 10-year Capital Highway Investment Program (CHIP). The SHIP thus helps bridge the long-range policy plan and MnDOT’s programming documents.

An additional notable practice is the self-evaluation step which MnDOT takes when initiating the update of its long-range plan. This is primarily a qualitative assessment of the status of implementation for the objectives and strategies from the previous plan. As shown in Figure 7, the evaluation describes the status as “substantial progress,” “some progress,” or “minimal to no progress.”

As seen in the figure, the progress evaluation identifies those who were responsible for implementing each strategy, including both internal and external partners. It also provides a short explanation of what has occurred since the previous plan, helping to provide a rationale for the status assigned to various strategies. Key projects or case studies are spotlighted to illustrate what has been accomplished in each area.

In cases where little progress has been made, the evaluation describes barriers encountered or other reasons the strategy has not proceeded as outlined in the long-range plan. This self-assessment provides MnDOT and its partners with the opportunity, as new plan development begins, to identify whether additional resources were needed or whether there may be a shift in priorities which should be reflected in the new plan.

FIGURE 7: MINNESOTA DOT’S PLAN EVALUATION ASSESSMENT

Strategy	Actors	Grade	Rationale
Prioritize maintaining and operating assets on identified priority networks.	MnDOT; Local, Regional and Tribal	Substantial progress 	Since 2012, federal and state policy direction has been shifting toward prioritization among transportation assets, at least partially due to funding limitations. In Minnesota, we’ve made substantial progress in this area over the past few years.
Keep Minnesota’s transportation system on a sustainable track for the future.	MnDOT; Local, Regional and Tribal	Some progress, more work 	A lot of progress has been made in the past few years to better maintain Minnesota’s transportation system. Work in this area continues to be a focus for all transportation partners. However more data and research is needed to better understand and implement the principles of asset management.
Ensure that safety, operations, and maintenance needs are considered and addressed in transportation planning and programming.	Transportation Partners	Some progress, more work 	This is an area where significant progress has been made at the state level in the past few years but more progress is needed at the local and regional levels.
Better align ownership of Minnesota’s roadways with statewide, regional, and local priorities.	Transportation Partners	Minimal to no progress 	Better aligning system ownership is still a goal among transportation partners in Minnesota. Planning work in this area has been widely successful, but the strategy as written implies action and limited funding is available to execute the recommendations of plans and studies. MnDOT receives \$50M annually for transfers, or \$1B over the next 20 years from the Highway User Tax Distribution Fund. MnDOT has agreed to 75 miles of transfers but must wait for funds to be available for reimbursement.

Source: Minnesota GO 2021 SMPT Assessment Report

3.2.2 ARIZONA DOT

Although primarily a policy plan, like NC Moves 2050, Arizona DOT’s Long-Range Transportation Plan (LRTP) includes a multimodal assessment of needs and public input which was used to develop a “Recommended Investment Choice,” or RIC. This element of ADOT’s plan recommends specific percentages of ADOT funds that should be allocated to preservation, modernization, and expansion.

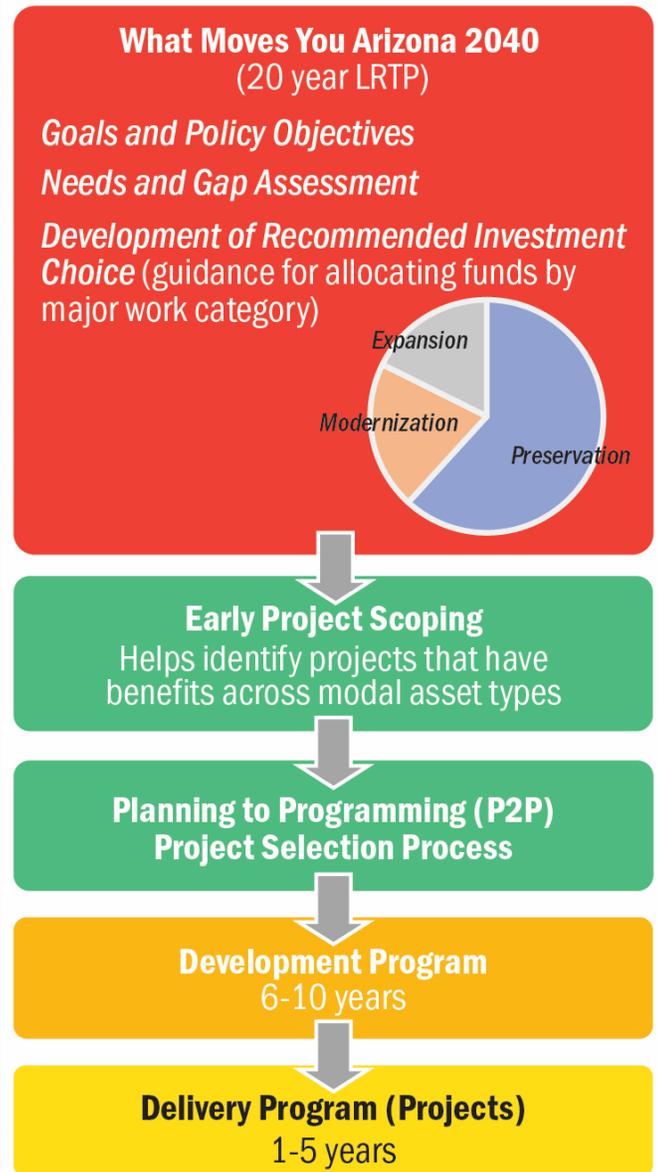
The RIC in ADOT’s current plan is partially data-driven but was also shaped by significant input from stakeholders and the public. Several alternative investment choice scenarios were developed and explored in stakeholder meetings for discussion about how each alternative might impact Arizona’s transportation system performance. The public was also invited to provide input on agency spending through an online tool showing tradeoffs. The ultimate RIC was a synthesis of ADOT/stakeholder and public input.

By providing a recommended balance of funding among major work categories, the RIC provides a link between the plan’s objectives and ADOT’s programming decisions (Figure 8). It is also intended to help the agency transition to a performance-based approach to investments. The recommended funding split is considered in ADOT’s annual budgeting process and the evaluation and selection of projects for its 5-year construction program (which is also the STIP).

ADOT performs an annual evaluation of the STIP to monitor how well project selection aligns with the recommended levels of investment for each major work category. The results are reported internally to ADOT leadership.

The STIP generally adheres closely to the percentages outlined by the long-range plan’s RIC, according to staff. They also report that the straightforward nature of the process and methodology make it easy to explain and understand.

FIGURE 8: ARIZONA DOT’S PLANNING & PROGRAMMING LINKAGE



Source: WSP (Process has been somewhat simplified to focus on items relevant to NCDOT).

3.3 ENGAGE AND INVOLVE EXTERNAL PARTNERS AND LEVERAGE INTERNAL RESOURCES

Given the diverse scope of the recommended actions and statewide planning approach, the external partners will play a very important role in successful plan implementation and communication to broader audiences.

As presented in Figure 9, NC Moves 2050 implementation could follow an integrated approach of three interacting groups.

- NCDOT Implementation Team** – Key staff in the Transportation Planning Division responsible for facilitating implementation activities and communicating with NCDOT leadership and the Board of Transportation on progress.
- NCDOT Tier 1 Action Leaders** – Assigned staff leaders (NCDOT divisions or offices identified in Table 1) for implementing each Tier 1 action. **Tier 1 Action Leaders** will likely need to be assigned to NCDOT managers or subject matter experts.
- 2050 Implementation Advisory Group (IAG)** – Once the **Implementation Team** and the **Tier 1 Action Leaders** are established, NCDOT can develop and convene the NC Moves 2050 Implementation Advisory Group. The **2050 IAG** can include a mix of NCDOT leaders, federal, state and regional transportation representatives from relevant public and private interest groups.

FIGURE 9: IMPLEMENTATION ROLE



The **NCDOT Implementation Team** can spearhead the entire implementation process, including coordination between the three groups, communication with NCDOT leadership and the Board of Transportation, development of the website and integration of NC Moves 2050 implementation with other NCDOT activities. Along with NCDOT leadership, they can be the primary face of NC Moves 2050 to state and regional partners such as metropolitan planning organizations (MPOs), rural planning organizations (RPOs), partner state agencies, interest groups and elected officials.

The **NCDOT Tier 1 Action Leaders** can come directly from the divisions and offices noted in Table 1 associated with each Tier 1 action. Many of the proposed leaders are already responsible for activities within their division consistent with the Tier 1 actions. This ensures effective sharing of internal NCDOT resources and awareness of ongoing activities not directly associated with NC Moves 2050 that can further spur implementation. The **Tier 1 Action Leaders** should regularly present progress, resource sharing and lessons learned with the **Implementation Team**. This can be conducted on a scheduled basis or in sync with **2050 IAG** meetings.

NCDOT leadership can also maintain an active role in guiding the **Implementation Team** and **Tier 1 Action Leaders**.

TABLE 1: TIER 1 ACTIONS – NCDOT LEADERS

Objective	ID	Action	Leaders
 Connect Communities to Statewide Opportunities	M2	Conduct a statewide vulnerability assessment of transportation users with mobility challenges.	NCDOT Integrated Mobility Division
	M3	Accelerate demand response and flexible multimodal strategies to meet the needs of an aging population and residents with disabilities.	
	M5	Implement multimodal solutions that improve connections to major transportation terminals, destinations and distribution centers.	
 Improve Transportation through Technology	T1	Promote internal and external innovation within NCDOT and build partnerships with academia and the private sector to research, pilot and implement emerging technology.	NCDOT Value Management Office
	T3	Utilize the existing Strategic Transportation Corridors (STCs) as priority “smart” corridors.	
 Ensure Safety and Security	S1	Enhance collaboration and partnerships with agencies and stakeholders that foster safety awareness and law enforcement.	Governor’s Highway Safety Program
	S2	Develop and implement new multimodal safety policy and standards that focus on public safety.	NCDOT Transportation Mobility and Safety Division
	S3	Research and invest in technology that can be used to reduce crashes, enhance crash data, monitor risky driver behaviors and promote safety for all users.	Governor’s Highway Safety Program
 Support a Strong Economy	E5	Advance channel deepening and technology-related operational improvements for the NC State Ports Authority.	NCDOT Ports Authority
	E7	Invest in infrastructure capacity and connectivity to relieve freight bottlenecks and disperse freight demand, enhancing network efficiency.	NCDOT Transportation Planning Division and Freight/Logistics
	E9	Establish partnerships and resources to prepare, equip and build a 21st century ready transportation workforce.	NCDOT Office of Human Resources
	E12	Support development and growth of dual enrollment programs to facilitate entry into specialized transportation skills and careers.	

Objective	ID	Action	Leaders
 Maintain a High-Quality System	R1	Incorporate and integrate risk and resiliency considerations across transportation activities – from long-range planning through operations.	NCDOT Transportation Planning Division and Technical Services Division (Environmental Policy and Hydraulics Unit)
	R2	Identify and prioritize multimodal transportation improvements that enhance system performance and reliability.	NCDOT Transportation Planning Division, Technical Services Division (Environmental Policy and Hydraulics Unit) and Planning and Programming Division (SPOT)
	R3	Standardize, measure and report asset management practices that advance transportation infrastructure resiliency.	NCDOT Technical Services Division (Environmental Policy and Hydraulics Unit) and Division of Highways
	R4	Support community-based resiliency approaches that inform NCDOT practices.	NCDOT Transportation Planning Division and Technical Services Division (Environmental Policy and Hydraulics Unit)

Once the framework of the **Implementation Team** and **Tier 1 Action Leaders** is confirmed, the **2050 IAG** should move forward quickly to maintain momentum. The process to convene the **2050 IAG** should include the following considerations.

- Membership** – The NC Moves 2050 **Implementation Team** facilitates the **2050 IAG** while the **Tier 1 Action Leaders** play a key role in providing briefings on Tier 1 action status and next steps. Membership of the **2050 IAG** should include a mix of NCDOT leaders (management level staff), some MPO and RPO representatives, FHWA, peer state agencies and some representatives from public and private interests. The individuals initially are pooled from the NC Moves 2050 stakeholder and agency working groups, given their familiarity with the plan. Total membership should not exceed 20 participants. The **2050 IAG** should include a diversity of perspectives across the five NC Moves 2050 plan objectives.
- 2050 IAG Structure, Branding, Charter** – NCDOT defines roles/responsibilities, activities, meeting frequency, possible subgroups focused on Tier 1 actions and integration of NC Moves 2050 implementation with other planning processes. NCDOT works to determine **2050 IAG** branding to highlight and distinguish its purpose from other existing working groups/committees. Members should view themselves as a liaison to other statewide planning activities as well as their own agency or organization which they represent.

Generally, the role of the **2050 IAG** members is advisory in nature. Ultimately, decisions on implementation steps, schedule and resources are the purview of the **Tier 1 Action Leaders** in coordination with the NCDOT **Implementation Team**. The **2050 IAG's** value includes its unique insight and perspective into implementation issues and risks, opportunities to leverage data and other resources and the potential for new and emerging partnerships.

- **Interaction with Other Work Groups and Committees** – It is typical practice at NCDOT to establish work groups and/or committees associated with important initiatives (e.g., Governor Cooper’s EO80), ongoing programs (like the Strategic Transportation Investments (STI) prioritization work group) or development of a new modal plan (for example the Statewide Freight Plan or Public Transportation Strategic Plan). Members of the **2050 IAG** who also sit on other committees or work groups should serve as liaisons to these and help foster two-way communication.

It is not anticipated that the existence of the **2050 IAG** eliminates the need for other committees or work groups. The **2050 IAG** can operate at a higher level as it is focused on the ongoing momentum and early implementation wins for NC Moves 2050, while other committees or work groups are assigned more targeted objectives associated with a specific NCDOT planning, programming or delivery process.

- **Set an Agenda** – Each meeting of the **2050 IAG** should have a clear agenda, purpose and objectives. Time spent should be allocated to individual actions where clear progress is being made and where additional insights or direction from members could help shape or support the process. Materials should be provided ahead of time and made available publicly, along with summary notes after each meeting on the NC Moves 2050 website. This helps to further formalize the process and ensure accountability and transparency to the public.

3.4 EVOLVE POLICY AND PRACTICE TO ADDRESS PLAN OBJECTIVES

Policy and practice changes take time to develop, incorporate into staff procedures and protocols and institute within an agency. The implementation process to support these changes can occur at multiple levels as presented in Figure 9 and connect to multiple plan objectives and NCDOT goals where possible. Several short-term factors – such as economic changes, new state or federal requirements or existing practices with other state and local agencies – also affect the ability to implement changes. Actions outside those driven by state or federal requirements can be seen as productive and prudent to achieve but are often challenged by more urgent crises that preoccupy staff time and resources. Prioritized actions should be associated with realistic timeframes and flexible schedules that adapt to changing conditions.

The profiles shown in the Strategies and Actions Technical Memo proposes lead/support agency units or agency partners for all 32 actions (Table 1 presented leaders for the Tier 1 actions). NCDOT and the **2050 IAG** can use this as a basis to identify “champions” for each action. The role of both lead and support units should be outlined by the NCDOT **Implementation Team** and the **Tier 1 Action Leaders**. Champions may be different from the Tier 1 action lead. The champion can be a NCDOT voice or an external partner who promotes and communicates the action internally and externally, while the **Tier 1 Action Leaders** are focused on day-to-day implementation decisions.

As noted in Figure 5, actions under NCDOT control and achievable in the next one to three years could serve as a starting point to rally agency leadership and staff support and produce “quick wins” for plan implementation (Example 1 below). Focusing on these sets of actions generates early momentum and interest in seeing the results of tactical steps behind the plan’s recommended actions.

Example 1: “Quick Win” Implementation

Action R2: “Identify and prioritize multimodal transportation improvements which enhance system performance and reliability,” includes a tactical step to recommend risk-based benefit-cost scoring into NCDOT’s project prioritization process.

This step satisfies several criteria needed to support a “quick win,” including:

- **Driven by federal or state requirements:** There is a growing federal emphasis on resiliency, underscored by several recent severe weather events resulting in major damage to state infrastructure.
- **Under NCDOT control:** State law (HB 817, Strategic Transportation Investments) directs NCDOT and its partners to regularly evolve scoring practices. This is currently performed biennially. Action R2 can be partially implemented through changes to NCDOT’s Strategic Prioritization process.
- **Achievable in 1 to 3 years:** The next version of Strategic Prioritization (P7.0) will start in fall 2020/spring 2021.
- **Clear business unit or external partner as champion:** NCDOT has instituted a Strategic Prioritization Office (SPOT) to manage the process and work closely with agency partners to recommend and enact scoring changes that inform project submittals to NCDOT’s 10-year State Transportation Improvement Program (STIP). NCDOT also has planning partners who can share examples of how they expect to incorporate system resiliency into planning and project prioritization.

Quarterly action status can be coordinated between the **2050 IAG** and P7.0 schedules and shared at MPO/RPO association meetings.

Some actions require focus on incremental changes to steer efforts in a different direction over time, as shown below in Example 2. Many of these actions may not be driven by federal or state requirements but instead by internal/external partnership, coordination, and new non-traditional arrangements. These Tier 1 actions are intended to set NCDOT on a path this decade toward a transportation system that is resilient to emerging trends and the Alternative Futures.

Example 2: “Practice Change” Implementation

Action E9: “Establish partnerships and resources to prepare, equip and build a 21st century ready transportation workforce,” focuses on building long-term agency workforce capacity and capability.

According to the ENO Foundation approximately half of the national workforce employed in transportation-related jobs either are or will be eligible for retirement in the next ten years. Additionally, *Strengthening Skills Training and Career Pathways Across the Transportation Industry – a Data Report on Future Transportation Workforce (August 2015)* notes that the transportation field lacks diversity and reflects an imbalance of representation for women and minorities between management and construction related positions.

The loss of experienced workers, ability to retain highly specialized talent, and gaps in workforce diversity require agency leadership on workforce recruitment, training and career development.

Policy and practice change for this action must have a clear-eyed understanding of the challenges and resource requirements. Many of these resources fall outside NCDOT’s primary role and responsibility. Leveraging existing internal programs to establish new external partnerships takes time but can be facilitated through the following tactical steps:

- Apply recommendations from recent workforce studies and partner with NC Works, NC Office of State Human Resources (OSHR), NCDOT Historically Black Colleges and Universities Program, NCDOT Civil Rights Division, NC Department of Environmental Quality and NC Community Colleges and Universities to close skill gaps and recruit future talent.
- Support NC OSHR to “champion” a new level of advanced coordination to assess current and future transportation workforce needs. Use state and national studies and the expertise of talented development professionals to identify and assess gaps and near-term skill requirements.
- Utilize input through NCDOT professional development programs (such as Leadership and Management Development Association (LMDA) or Legacy Leadership Program (LLP) or Project Management Program) and external expertise. Assess and determine high demand skill requirements associated with future technology applications, data systems operations and other project development and construction related changes.

The ability to assess and inventory workforce capabilities and coordinate responses can be complex and challenging. However, progressive, incremental steps can position NCDOT to be a national leader on this issue.

For each Tier 1 action, the NCDOT **Implementation Team** and the **Tier 1 Action Leaders** should develop a refined understanding of the tactical steps toward successful implementation. The examples presented above highlight the starting point for two very different Tier 1 actions. Additionally, many Tier 1 actions address multiple plan objectives and therefore involve a cross section of agency leaders to successfully implement change. Several of these actions can result in policy and practice changes that have direct implications to long-range planning and rely on close coordination with local MPOs and RPOs. The following require more extensive **Tier 1 Action Leaders** coordination and involvement:

- **Strategic Transportation Corridor (STC) studies** – NCDOT is currently developing master plans to support mobility and performance vision and goals for 25 STCs. These master plans can incorporate NC Moves actions, such as technology deployment, high risk/vulnerable asset assessments, enhancement of first/last mile connectivity and spreading freight across multiple modes of transportation.
- **Comprehensive Transportation Plan (CTP) / Metropolitan Transportation Plan (MTP) development** – Technology considerations such as teleworking, use of other modes (beyond single-occupant vehicles) and other demand management strategies could be incorporated in travel demand forecasting and analyses that support plan development.

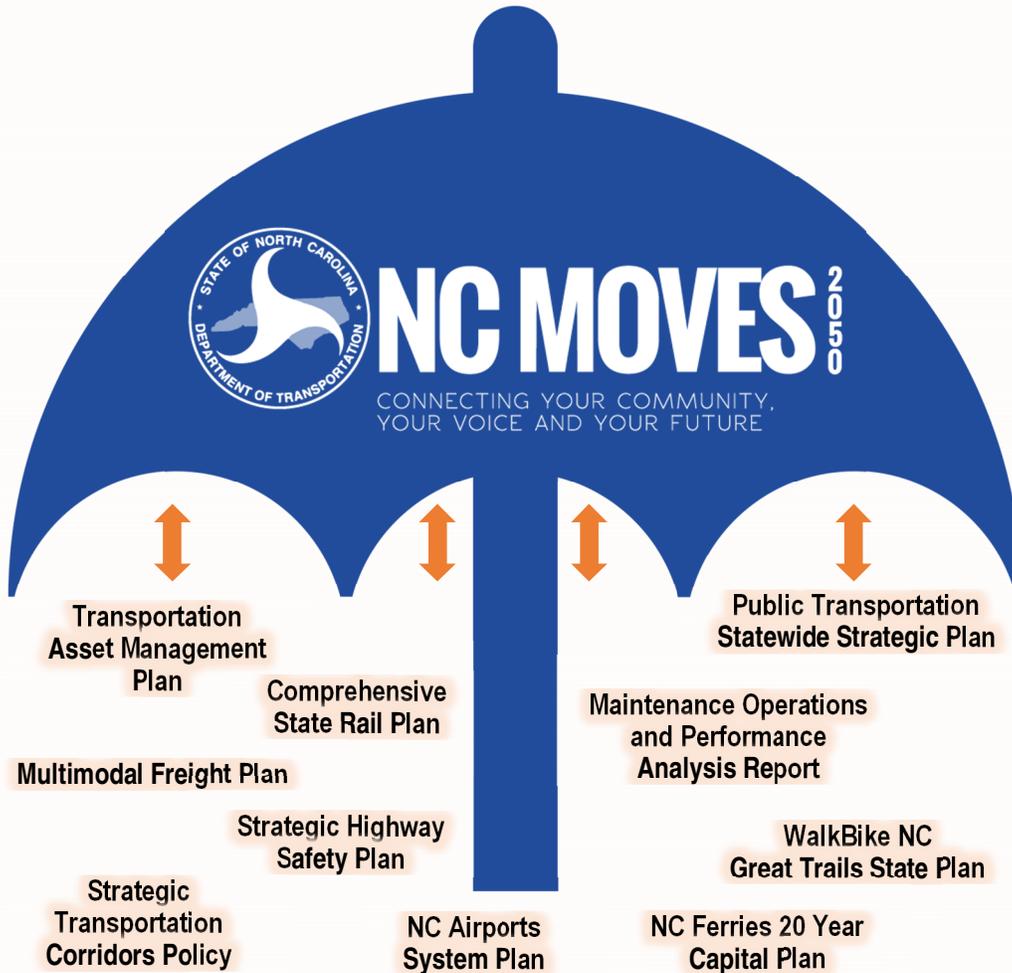
Additionally the NCDOT **Implementation Team** and **Tier 1 Action Leaders** can consider transitioning agency staff to new practices through training and “how to” documents/guides. Incorporating methods based on industry changes, applied research and/or enhanced tools and analyses can build staff capacity and enhance agency capabilities.

3.5 PROVIDE POLICY GUIDANCE TO DEVELOP OTHER PLANS

As noted in Figure 2, NC Moves 2050 was designed to function as the top of a hierarchy of planning processes that NCDOT and its partners can undertake within the next decade. Within that context, NC Moves 2050 can function as a planning and policy “umbrella” to guide, align and provide direction to other system and mode-specific plans.

Many Tier 1 actions suggest new or evolved planning efforts for NCDOT to lead over the coming years. In addition to the explicit steps that are directly part of NC Moves 2050 plan implementation, there are a multitude of plans that NCDOT routinely updates consistent with a required cycle or voluntarily updates based on leadership or policy direction. The relationship of NC Moves 2050 to NCDOT’s family of plans is presented in Figure 10.

FIGURE 10: NCDOT FAMILY OF PLANS



The relationship between plans works in both directions: NC Moves 2050 can inform updates to other statewide plans within the “family,” while updates to other statewide plans can ultimately inform future updates to the state’s long-range transportation plan (which typically occur on a four to five year cycle).

The NCDOT **Implementation Team** can review the scope of plan updates within the “family” to ensure development relates to and advances the NC Moves 2050 goals, objectives and strategies. Specific actions within an individual plan should be evaluated for their relevance to the 32 actions in NC Moves 2050 for implementation consistency, coordination and efficiency. Each plan within the NC Moves 2050 umbrella could support development of more detailed recommendations and tactical steps to help establish more uniform agency wide policy and practice change.

All of the plans referenced in Figure 10 except for the WalkBikeNC Plan (2013) and the Great Trails State Plan (anticipated in 2021) have been updated in the past five years. Many of these plans are likely to be updated in the next five years and could be developed consistent with the ongoing process of NC Moves 2050 Plan Implementation. As these plan updates occur, the three Implementation teams can assist in coordination with NC Moves 2050 Plan implementation. Planning activities and policy, program and project outcomes from the

updated modal plans may shift NCDOT priorities and ultimately feed into the next update of NC Moves. A good example of this coordination is found in the forthcoming State Rail Plan that contains goals, objectives and recommended projects which align well with NC Moves 2050.

3.5.1 MPO METROPOLITAN TRANSPORTATION PLANS (MTPS) AND OTHER REGIONAL PLANS

MAP-21 and the FAST Act encourage improved coordination between NCDOT and MPOs. This occurs routinely through STI prioritization to develop the STIP but now also as part of the Transportation Performance Management process. While NCDOT supports MPO long-range planning, contributes resources and shares direction, generally an MPO is in the lead position to craft a plan that meets the unique needs of its region. The opportunities for this coordination will occur in the next one to three years. Several MPO MTP updates are currently in-progress or soon to begin.

Ten MPOs were planning to adopt new MTPs by July 2021 consistent with pre-COVID-19 schedules and are well underway with planning activities. Three other MPOs, including Charlotte, are initiating updates now with a plan to adopt in spring 2022. The remaining six MPOs, including CAMPO (Raleigh) and DCHC (Durham-Chapel Hill-Carrboro) are scheduled to adopt new MTPs by 2024.

There are various resources created by NC Moves 2050 that can support MPO MTPs, including development and analysis of the alternative futures and the needs and revenue assessments. While many Tier 1 actions might ultimately represent strategies or projects in MTPs that could be implemented over the next 10 years (just outside the timing of a traditional TIP), for MTPs, Tier 2 and Tier 3 actions may play a more significant role in identifying long-term investment priorities at the regional level. NCDOT will continue its relationship with the MPOs, but can expand this relationship through NC Moves 2050 to provide resources and more explicit direction on long-range statewide and regional priorities. This relationship is not only applicable to MPOs. The outcomes of NC Moves 2050 can also inform future direction in RPO-led plans, CTPs, STC studies and other regional transportation and economic studies.

3.6 COMMUNICATE PROGRESS AND PERFORMANCE

NCDOT is a performance-based organization with a strategic, data-driven, decision-making process that is transparent and accountable. This approach ensures that politics do not determine transportation priorities and that the department's operations align with its overall mission and goals.

As required through the past two federal surface transportation authorizations, MAP-21 and the FAST Act, NCDOT, MPOs and public transportation providers apply a transportation performance management (TPM) process in carrying out their transportation planning and programming activities. The TPM process requires the establishment and use of a coordinated, performance-based approach to transportation decision making to support national goals for the federally aided highway and public transportation programs.

Through NCDOT's Strategic Initiatives and Program Support Division, the NCDOT Performance Scorecard serves as an indicator of how well the department is doing in its mission of connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina. Each year, NCDOT also develops an annual report that measures its performance and presents highlights reflecting major achievements and areas for improvement.

NCDOT Organizational Performance:

<https://www.ncdot.gov/about-us/our-mission/Performance/Pages/default.aspx>

NCDOT Annual Report:

<https://www.ncdot.gov/about-us/our-mission/Pages/annual-reports.aspx>

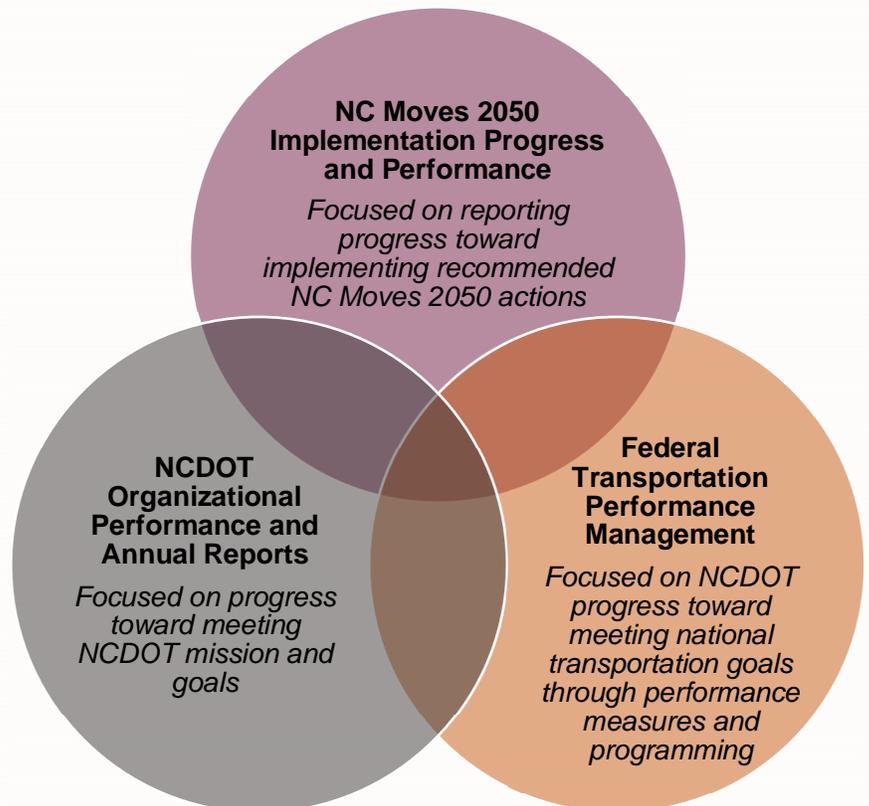
As part of NC Moves 2050, NCDOT included a description of federal transportation performance measures and targets and a System Performance Report. The System Performance Report evaluates the condition and performance of the transportation system with respect to the federal performance measures and targets, including progress achieved by the state’s MPOs in comparison with system performance recorded in previous reports. It then highlights how the identified recommendations in NC Moves 2050 could help NCDOT meet existing and future performance targets.

Both the state and federal approach to performance management require a continuing commitment to collect and analyze data, report performance, receive feedback, change direction when needed and measure outcomes. There are new opportunities for NCDOT to integrate the state and federal performance management approach with implementation progress tracking of the strategies and actions recommended as an outcome of NC Moves 2050. This section highlights potential activities to ensure a consistent and efficient department-wide approach that improves and broadens NCDOT’s performance-based approach.

Where existing performance management processes focus on organizational performance and performance of the transportation system, NC Moves 2050 progress and performance focuses on the status of NCDOT activities to implement the goals and recommended actions of the plan.

Figure 11 depicts how these different performance purposes interact. Ultimately the connection between long-term system performance and short-term activities that contribute to meeting performance targets and goals occurs incrementally and through various plans (such as Transportation Asset Management Plan (TAMP) and Highway Safety Improvement Program (HSIP)), project priorities and the agency’s programming process. There are three specific, interconnected approaches that NCDOT and its partners can undertake to ensure these performance efforts are integrated and consistent with the overall implementation plan process.

FIGURE 11: NCDOT PERFORMANCE-BASED APPROACH



1. Connect NC Moves 2050 Implementation Progress to Existing and Future Programming Efforts

Continued implementation of Strategic Transportation Investments (STI) as a means to prioritize investments in advance of each State Transportation Improvement Program (STIP), and development, public review and adoption of the NCDOT STIP, should incorporate a cross-check of how the prioritization process and final STIP promote NC Moves 2050 objectives, strategies and recommendations. Peer states, including Arizona, Minnesota, Texas, and Virginia, track long-range transportation plan supporting investments within their STIPs (or equivalent programming document) and link long-range transportation plan goals and objectives into their own prioritization processes.

To initiate this process, the Strategic Prioritization Office of Transportation (SPOT) in coordination with the STI prioritization workgroup should consider how to better align prioritization factors and criteria to NC Moves 2050 objectives. In advance of the next STIP development, the Division of Planning and Programming should develop and implement a framework for aligning programmed investments with NC Moves 2050 strategies and actions.

2. Establish Framework for NC Moves 2050 Implementation Visibility

To maintain and enhance visibility of NC Moves 2050 as more than just the long-range plan, NCDOT should strategize and develop a unique brand (linked to the NC Moves 2050 brand) that focuses exclusively on the implementation aspect of NC Moves 2050. This enables NCDOT to create awareness with stakeholders regarding the difference between the NC Moves 2050 planning process compared to NC Moves 2050 implementation.

The **2050 IAG** should create a tailored agenda and schedule for communicating accomplishments, ideally maintaining a regular reporting process. Reporting on accomplishments can occur through a variety of opportunities/audiences, including: Board of Transportation meetings, presentations at annual conferences (such as the Transportation Summit and NCAMPO) and other partner association meetings, and through annual accomplishment reports or periodic factsheets/ briefs. Briefing materials should sync with **2050 IAG** branding and become associated with plan progress, which can ultimately translate to reporting improved performance of North Carolina's transportation system.

3. Create and Maintain a Platform to Share Progress

The NC Moves 2050 website should be expanded to include a unique implementation page where the material developed as part of the above processes are made available. In addition, NCDOT could explore development of a dashboard, updated on a regular basis. Initially the dashboard might simply provide a narrative description of how each Tier 1 action is being implemented. This could include planning, program, policy or project examples that reflect progress.

Actual performance outcomes from changes in policy or programs take time to materialize and ultimately can be reported through the parallel performance management approaches highlighted in Figure 5. The connection between the NC Moves 2050 performance platform to these parallel platforms could include narratives on how implementation of the Tier 1 actions can drive progress against state and federal performance goals and targets. Ultimately the home for the NCDOT-specific performance, federal measure performance and NC Moves 2050 implementation progress should be linked, allowing stakeholders to understand how they collectively work together. It is possible this could be achieved through a single, centralized place to report all aspects of

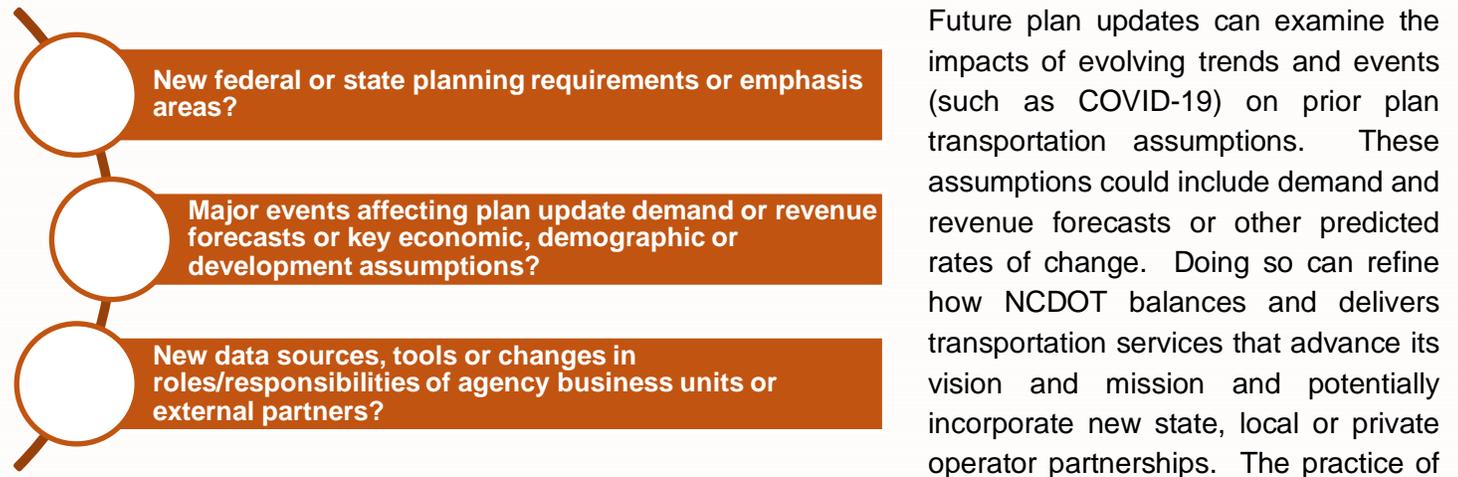
performance, which is similar to how Virginia, for example, has addressed communicating measures representing different performance processes.

3.7 INFORM FUTURE NC MOVES PLAN UPDATES

Institutionalizing plan implementation provides a reporting mechanism of activities and accomplishments to communicate future NC Moves plan updates. The scope of the next 30-year NC Moves plan (i.e., 2055) will in part be directed by the progress on Tier 1 actions and accomplishments which stem from NC Moves 2050. Each successive plan update can operate this way to establish a rhythm and agency and external partner expectations to make the planning process more dynamic and integrated. Additionally, future plan updates provide an opportunity to revisit and update trends, assumptions and new industry conditions or state/federal requirements that may refine or redirect Tier 1 actions.

Figure 12 presents a checklist of criteria and questions to review prior to future plan updates. This step highlights how some implementation activities may need to be re-examined in light of new data sources, emerging and disruptive forces and/or new transportation requirements. A quick review can unveil what aspects of current plan implementation (if any) need adjusting or revised focus under future plan updates. For example, the current federal reauthorization bill – Fixing America’s Surface Transportation Act, or FAST Act – has expired on September 30, 2020. New planning requirements and emphases under the next federal funding authorization bill (to be determined) may shift the focus of some Tier 1 actions, dictate resources that accelerate the completion of those actions or add new long-range plan considerations that reprioritize the timing of Tier 1 vs Tier 2 or Tier 3 actions.

FIGURE 12: CHECKLIST OF PLAN UPDATE CONSIDERATIONS



Future plan updates can examine the impacts of evolving trends and events (such as COVID-19) on prior plan transportation assumptions. These assumptions could include demand and revenue forecasts or other predicted rates of change. Doing so can refine how NCDOT balances and delivers transportation services that advance its vision and mission and potentially incorporate new state, local or private operator partnerships. The practice of

examining plan implementation at the start of future plan updates has other practical considerations such as:

- **2050 IAG focus and representation** – expanded roles or new representatives may be necessary to reflect new planning requirements and/or adjusted Tier 1 action interests. For continuity, the **2050 IAG** could also meet more frequently during the next plan update to advise the coordination of Tier 1 actions in light of new data, planning requirements or conditions and provide input on plan development and direction consistent with these new considerations. The outcomes of this approach and ongoing work of

the **2050 IAG** could refine practice recommendations already underway in risk/resiliency planning, travel demand modeling, freight planning or more integrated multimodal analysis.

- **Tier 1 Action Leaders** – specific action leaders and units may change based on the extent of new planning emphases or requirements or NCDOT changes to organizational structure, roles and responsibilities in light of these requirements. The NCDOT **Implementation Team** can coordinate changes to **Tier 1 Action Leaders** assignments and recommend adding, adjusting or expanding action leaders during plan update cycles.
- **NC Moves influence to develop other system or modal plans** – new federal or state requirements can have an impact on how specific system or modal statewide plans are developed. Any new policy, action recommendations or plan goals and objectives in the next NC Moves plan update should link to and align with the development of system or modal specific plans so the family of plans (Figure 10) remains intact.

4. CONCLUSION

4.1 LOOKING FORWARD

The implementation of the NC Moves 2050 Plan provides a path towards tangible, meaningful actions which involve and engage internal staff and external partners. This implementation plan provides a basis and starting point for NCDOT leadership consideration and outlines a structure to support sustained success and report its outcomes and accomplishments. Taking the first steps to establish agency staff roles and accountability toward Tier 1 actions is critical toward building early momentum and signaling NCDOT's seriousness to the current working group, stakeholders and key planning partners. Maintaining an agency focus on plan implementation comes with inherent challenges and opportunities, especially given NCDOT's sizeable system responsibilities and numerous external factors that demand agency resources and staff attention -sometimes unexpectedly and for prolonged periods.

However, as recent events have shown, preparing short- and long-term planning responses to rapidly changing and uncertain forces acting on transportation is an increasingly important endeavor. Establishing partnerships and leveraging expertise (inside and outside the agency) are critical to address future challenges and harness Tier 1 actions into opportunities and build momentum toward future plan updates. The implementation of NC Moves 2050 is an important step to establish how NCDOT moves forward in a visionary, impactful manner to further embed policy recommendations into strategic decision making and build a resilient path to navigate the future.