NORTH CAROLINA
Department of Transportation

Complete Streets Implementation

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Topics

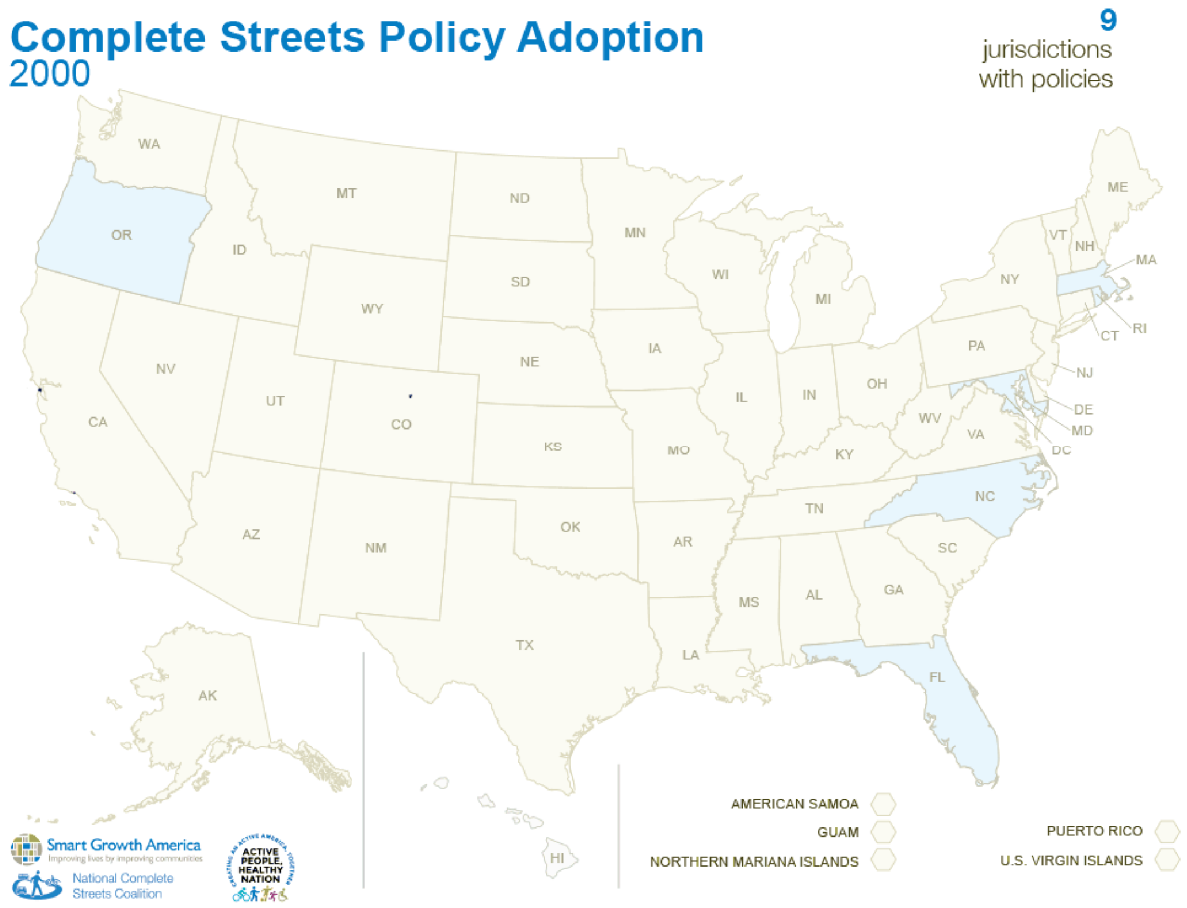
- Evolution of Complete Streets in North Carolina
- Summary of new implementation guidance
- Feedback from internal and external partners
- Next Steps

Complete Streets Goals

- Reduce pedestrian crashes and unsafe conditions
- Improve access and mobility for those without a vehicle
- Enhance quality of life by providing transportation choices
- Ensure NCDOT has an equitable transportation system that works for everyone

US Progression of Complete Streets

- Policy establishes framework for decisions
- Plans and state/national guidance assist with project design and implementation
- 2021 Bipartisan Infrastructure Law emphasizes Complete Streets



Evolution of Complete Streets and NCDOT

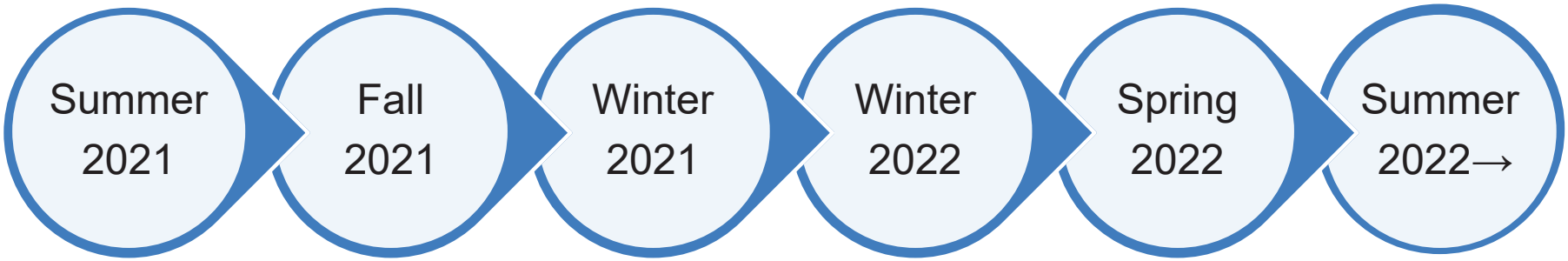
- NC first State to establish a Bicycle Program (1974)
  - Expanded in 1992 to also address Pedestrian accommodations.
- NCDOT Board adopts Complete Streets Policy (2009)
  - Supplemental planning and design guide created
  - Bicycle and Pedestrian Policies continue
- NCDOT Board updates Complete Streets Policy (2019)
  - Rescinded and replaced previous policies and guidelines
  - Integrated into IPD, Roadway Design Manual, and ATLAS (ongoing)
- Bike/Ped Merger with Public Transit to become the Integrated Mobility Division (IMD) (2019-2021)
- Release of updated methodology for Complete Streets Review (2022)

Implementation Challenges

Key challenges with implementation of the Policy include:

- Inconsistent implementation across Divisions
- Lack of standards and need to streamline
- Policy gaps in key areas (e.g. maintenance)
- Limited metrics, data and tracking
- Need for enhanced training

Guidance Update Timeline



- Develop methodology
- CTT review

- Revised facility selection tools
- Division feedback
- CTT review
- Updated related guidance

- MPO, RPO, TPD feedback
- Incorporated updates

- CTT review
- Finalize and post guidance
- Begin trainings
- Initiate work groups

- Continue trainings
- Monitor implementation
- Gather data

- Monitor implementation
- Gather data
- Identify V2 updates

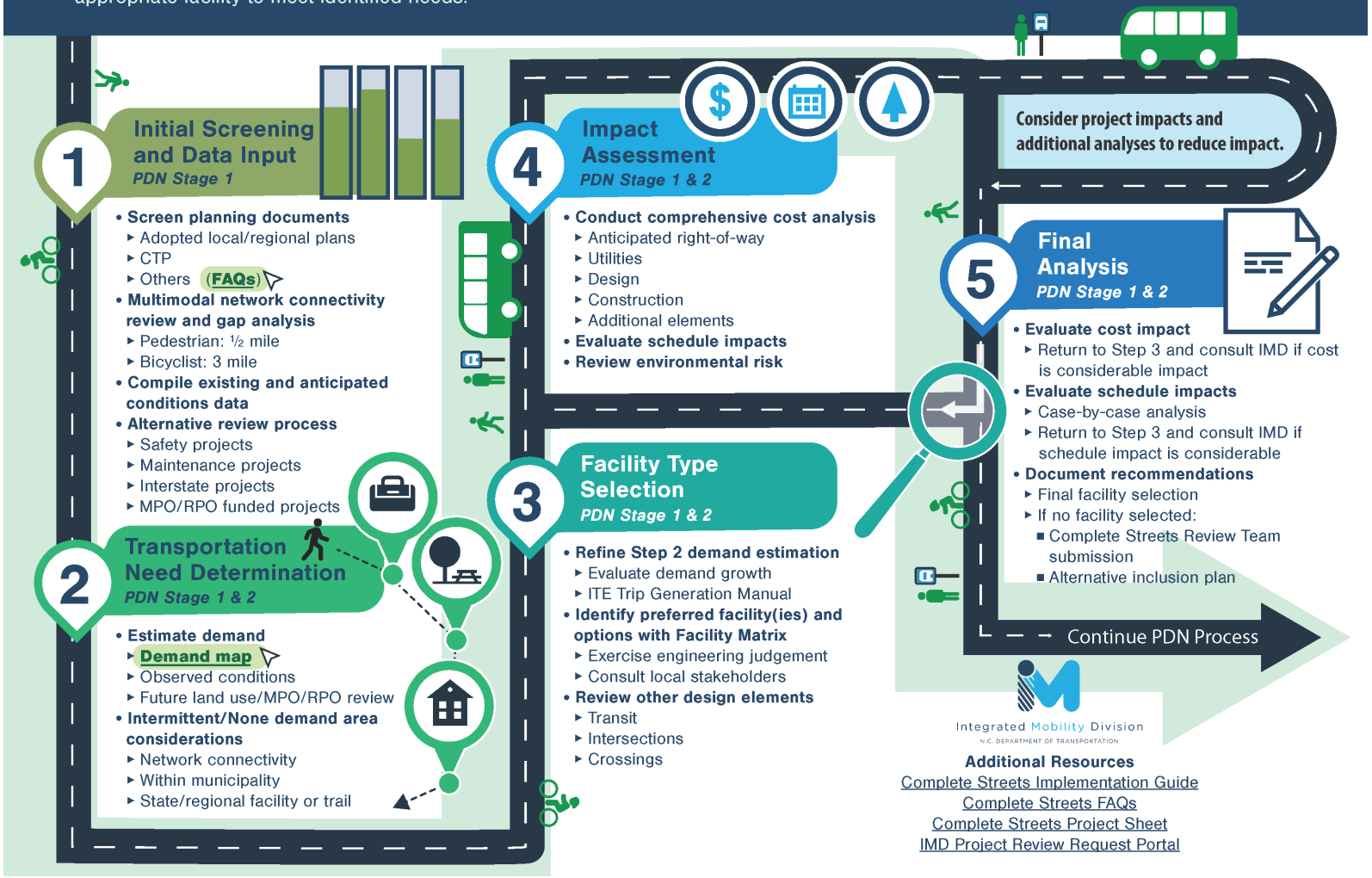
Proposed Implementation Improvements

- New project evaluation methodology to identify multimodal needs, select the appropriate facility type, and assess impacts.
- Modifications to Implementation Guide to integrate new evaluation methodology and to clarify key guidance areas, including:
  - Clarify that NCDOT pays the full cost of complete streets enhancements when a need is identified AND the enhancements are in a plan.
  - Clarify that maintenance agreements are needed for all separated facilities, with some exceptions (exceptions parameters are under development).

Goals of New Evaluation Methodology

- NCDOT's new evaluation methodology is standardized and streamlined, and will guide project managers through a process of identifying needs, selecting the appropriate facility type, and estimating added impacts to the project.
- The new approach better integrates Complete Streets evaluation into project development and will lead to more consistent inclusion of appropriate bicycle and pedestrian facilities on NCDOT projects statewide.
- Tools developed for the new process will be supplemented with site observations, project-specific data, and discussions with local partners when determining need and choosing an appropriate facility type.

The Complete Streets Project Evaluation Methodology process serves as guidance to aid in the evaluation of highway projects for Complete Streets elements. This guidance is intended to support Project Leads and Managers throughout the PDN stages, beginning with all five steps in PDN Stage 1 and select steps revisited in PDN Stage 2. Project Leads and Managers should supplement this process with local conversations, detailed analysis of conditions, and engineering judgement to design the appropriate facility to meet identified needs.



Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION

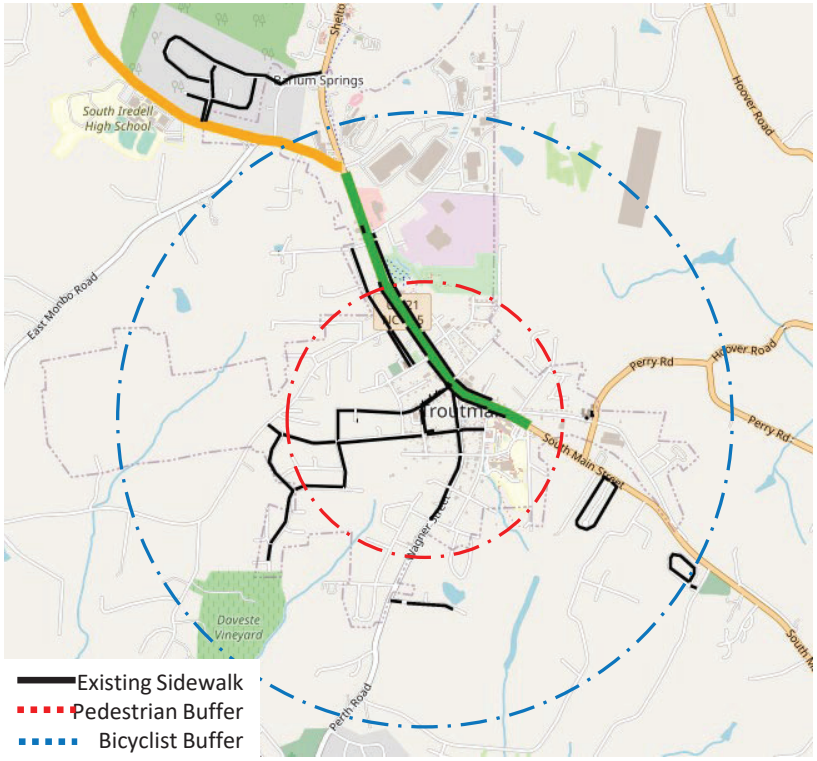
Additional Resources

Complete Streets Implementation Guide
Complete Streets FAQs
Complete Streets Project Sheet
IMD Project Review Request Portal

Initial Screening and Data Input

PDN Stage 1

- Screen planning documents
  - Adopted local/regional plans
  - CTP
  - Others (See FAQs)
- Multimodal network connectivity review and gap analysis
  - Pedestrian: ½ mile
  - Bicyclist: 3 miles
- Compile existing and anticipated conditions data
- Alternative review process
  - Safety projects
  - Maintenance projects
  - Interstate projects



Transportation Need Determination

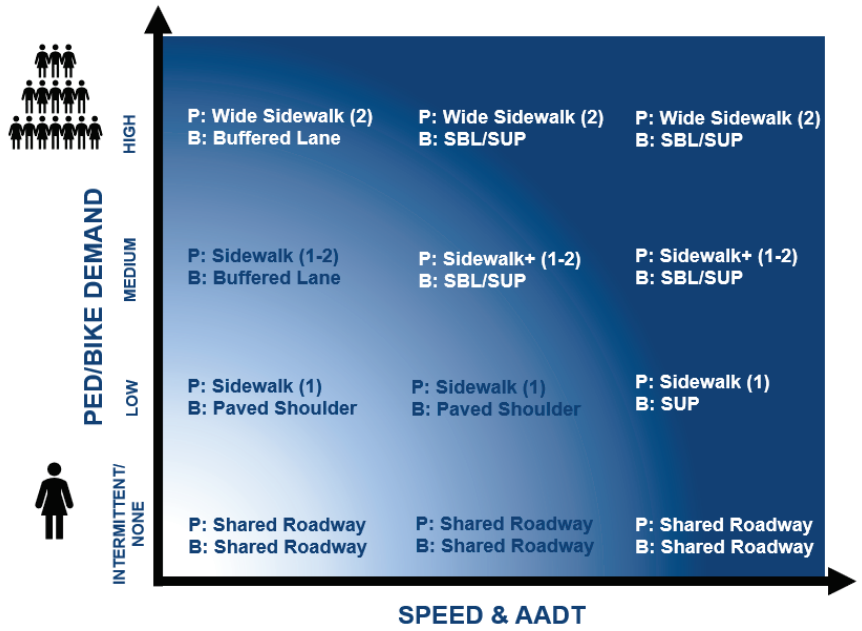
PDN Stage 1 & 2

- Estimate demand (several tools)
  - Demand map (see right)
  - Observed conditions
  - Future land use
- Intermittent/None demand area considerations
  - Network connectivity
  - Within municipality
  - State/regional facility or trail

Risk Assessment and Facility Type Selection

PDN Stage 1 & 2

- Refine Step 2 demand estimation
  - Project growth rate
  - ITE Trip General Manual
  - Local consultation
- Identify preferred and option facility types with Facility Selection guidance
  - Facility Selection Matrix (example application)
  - Exercise engineering judgement
  - Consult local stakeholders
- Review other design elements
  - Transit
  - Intersections
  - Midblock crossings



Conceptual graphic

Facility Selection Table

		AADT and Roadway Configuration			
Operating Speed		Operating speed 35 mph or less	Any cross section with designs supporting operating speeds above 35 mph		
Pedestrian and Bicycle Demand		<6,000 AADT (2 or 3 Lanes)	≥6,000 AADT (2 or 3 Lanes)	4 Lane Divided	>4 Lanes
	High	P: Wide Sidewalk (2) O: Sidewalk (2) B: Buffered Bicycle Lane O: Bicycle Lane, Shared Lane	P: Wide Sidewalk (2) O: Sidewalk (2) B: SBL/SUP O: Buffered Bicycle Lane, Bicycle Lane		
	Medium	P: Sidewalk (1-2)* B: Buffered Bicycle Lane O: Bicycle Lane, Shared Lane	P: Sidewalk + Expanded Buffer (1-2)* O: Sidewalk (1-2)* B: SBL/SUP O: Buffered Bicycle Lane, Bicycle Lane		
	Low	P: Sidewalk (1) O: Paved Shoulder (width TBD), No Facility/Shared Roadway B: Paved Shoulder (width TBD) O: Shared Roadway/No Facility	P: Sidewalk (1) O: Paved Shoulder (width TBD) B: Paved Shoulder (width TBD) O: Shared Roadway/No Facility	P: Sidewalk (1) O: Paved Shoulder (width TBD) B: SUP O: Paved Shoulder (width TBD), Shared Roadway/No Facility	
	Intermittent / None	B: Shared Roadway/No Facility			

Legend & Notes

P - Denotes priority pedestrian facility. The priority pedestrian facility must be analyzed first before consideration of additional facility type options.
B - Denotes priority bicycle facility or space to accommodate bicyclists. The priority bicycle selection must be analyzed first before consideration of additional facility type options.
O - Denotes alternative facility options for consideration in order of recommended evaluation after the priority facility. Options that provide the greatest separation from motor vehicles must be evaluated before other options.
Terms: SBL = Separated Bicycle Lane, SUP = Shared-Use Path, "Shared Lane" may consist of Shared Lane Markings, additional markings, and traffic control devices for bicycle awareness, "Sidewalk+" indicates the presence of sidewalk and expanded buffer/furnishing strip, "Paved Shoulder" may accommodate bicyclists with widths that are to be determined, and "Shared Roadways" may include signage and shoulders per 3R guidance.
(#) - Indicates number of sidewalks along a roadway.
***** - Sidewalk placement dependent on distribution of development along the roadway. For balanced development, consider sidewalks on both sides.

Facility Selection Matrix Tool: Example Project

- Low demand area, 7,000 AADT, 40 mph operational speed, two-lane
- Preferred Facilities – Ped: Sidewalk (1), Bike: Paved Shoulder (width TBD)
- Option Facilities – Ped: Paved Shoulder (width TBD), Bike: Shared Roadway

		AADT and Roadway Configuration			
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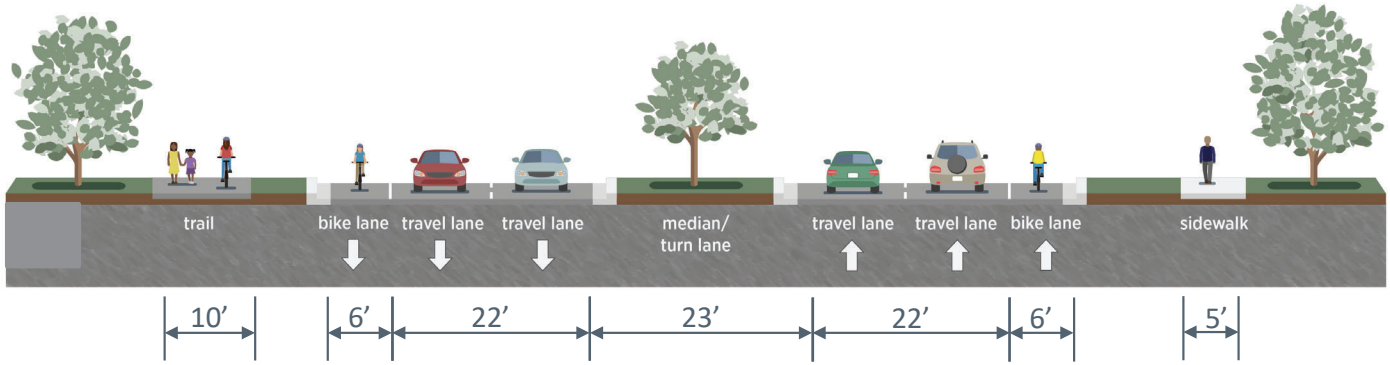
	Intermittent / None		B: Shared Roadway/No Facility		

Impact Assessment

PDN Stage 1 & 2

- Conduct comprehensive cost analysis
  - Anticipated right-of-way
  - Utilities
  - Design
  - Construction
  - Additional enhancements
- Evaluate schedule impact
- Review environmental risk



Conceptual cross section, illustration only

Final Analysis

PDN Stage 1 & 2

- Evaluate cost impact
  - Projects that exceed a 10% cost increase would be subject to greater scrutiny.
  - Review of NCDOT let lists has shown typical Complete Streets increase is 2%-10%.
  - Return to Step 3 and consult IMD if cost impact is considerable.
  - Discuss project modifications with LGA to manage cost.

- Evaluate schedule impact
  - Case-by-case analysis.
  - Return to Step 3 and consult IMD if schedule impacts are considerable.
  - Discuss project modifications with LGA to manage cost.

- Document recommendations
  - Final facility selection.
  - If no facility recommended, submit Complete Streets Review Team report for review and develop alternative inclusion plan.

Feedback

ONE-ON-ONE CONVERSATIONS

GROUP CALLS

CONFERENCE PRESENTATIONS

NCDOT Internal Feedback

- **Maintenance** – Need for maintenance agreements for separated facilities
- **Demand estimation** – Demand estimation map may overestimate demand in some areas
- **PDN stages** – Clarity needed on evaluation timing in the PDN process
- **Varying demand** – Guidance needed on projects crossing demand levels
- **Cost impact** – Guidance on appropriate cost impact thresholds needed
- **Alternative inclusion plan** – Guidance needed on alternative inclusion plan when need is not recommended to be addressed on subject project
- **Applicability to unique project types** – How/if to apply methodology to spot safety, maintenance, and MPO/RPO-funded projects on state roads

MPO and RPO Feedback

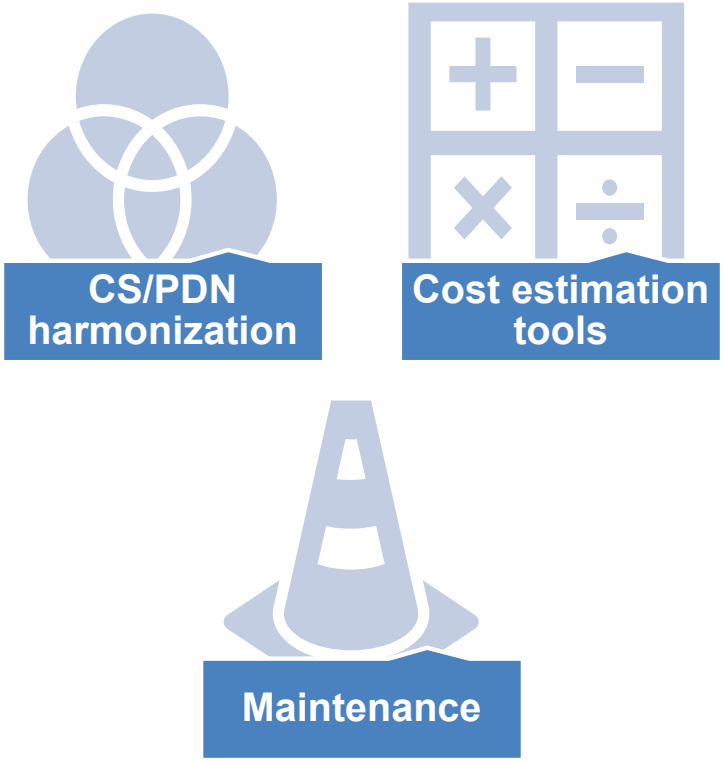
- **Demand Estimation**: Concern that proposed methods underestimate growth.
- **Maintenance**: Preference for NCDOT to maintain separated facilities outside municipalities.
- **CTP Alignment**: Preference for alignment of Complete Streets/CTP need determination.
- **Local Coordination**: Concern that NCDOT PMs will not sufficiently coordinate with MPOs, RPOs, and LGAs.
- **Cost Impacts**: Request for consideration of economic benefits.
- **Work Groups**: Desire to join the PDN, cost impact, and maintenance work groups.
- **Clarifications**: Terminology, need determination options, and MPO/RPO funded projects.

Ongoing Discussions on Key Issues

- Maintenance of separated multimodal facilities, particularly outside of municipal boundaries
- Inclusion of complete streets enhancements on maintenance projects
- Harmonization of complete streets processes with the Project Delivery Network (PDN)
- Alignment of pedestrian/bike need determination between CTP and complete streets methodologies
- Local coordination when determining bike/ped needs and choosing facility
- Determining costs and benefits of complete streets elements
- Incorporating complete streets enhancements in projects prior to programming

Work Groups

- Convening three work groups to refine PDN harmonization, cost estimates, and maintenance issues.
- Representatives from Divisions, other units, and MPO/RPOs.
- Anticipated discussions in February and March.
- Recommendations incorporated in next CS updates.



Project Review Process

- Short-term: project managers continue to submit projects to IMD for review and recommendations.
- Long-term:
  - Project managers complete their own review and develop recommendations in coordination with project partners and local officials.
  - IMD serves as overall Complete Streets program manager, providing technical assistance, quality assurance, and leading guidance refinement based on data and feedback.

Smart Sheets Submission

smartsheet

Integrated Mobility Division (IMD) Project Review Request Portal

Integrated Mobility Division (IMD) Project Review Request Portal

The Integrated Mobility Division, as an actor in the Project Delivery Network (PDN) developed during the Integrated Project Delivery (IPD) process, has developed this project review request portal to facilitate the submission of project information to IMD for review.

Link to NCDOT Project Delivery Network: https://connect.ncdot.gov/projects/Integrated-Project-Delivery/Documents/NCDOT_ProjectDeliveryNetwork_Version1.1.pdf

Link to NCDOT Complete Streets: https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx

Please refer to the Project Delivery Network (PDN) to determine which review request to submit through this portal.

Stage 1
•If the project does not have a complete (reviewed and signed) Complete Streets Project Sheet or you are submitting a Start of Study letter for project scoping (or both) – please select: Project Initiation (Stage 1).

Stage 2
•If the project has a signed Complete Streets Project Sheet and has progressed to Stage 2: Alignment Defined of the Project Delivery Network, submit preliminary plans and facility designs for the design concurrence review– please select: Alignment Defined (Stage 2).

Stage 3
•If the project has completed initial pavement marking design and has progressed to Stage 3: Plan-In-Hand of the PDN submit all project information available including facility designs and pavement marking plans for review – please select: Plan-In-Hand (Stage 3).

General Technical Assistance
•If the review request is outside of the Project Delivery Network review process and you have a general technical assistance request – please select: General Technical Assistance.

If you have any questions about submitting projects through the IMD Project Scoping and Design Concurrence Portal please contact completestreets@ncdot.gov or jcfurstenberg@ncdot.gov.

- [IMD Project Review Request Portal](#)

Project Scoping Reviews

Reports by Division (Stage 1 Review Completed)

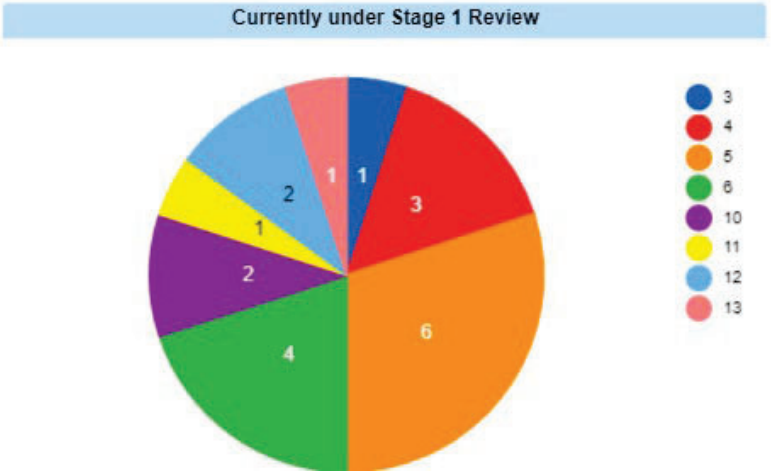
Primary	Division	STIP Number	WBS Number	County	Outcome	Reviewer Name Stage 1 (Internal)
Total Count 64						
Division 2 Count 6						
	2	B-5614	Pending	Beaufort	Accommodation In Plan, Concur with Approach	Emily Love
	2	BP2.R019.1	N/A	Craven	Accommodation NOT In Plan, Recommend Further Review	Emily Love
	2	U-3431	39004.1.1	Craven	Accommodation In Plan, Recommend Further Review	Emily Love
	2	N/A	N/A	Pamlico	Accommodation In Plan, Concur with Approach	Pierre Tong
	2	N/A	N/A	Pamlico	Accommodation In Plan, Concur with Approach	Pierre Tong
	2	B-5995	48190.1.1	Pamlico	Accommodation In Plan, Recommend Further Review	Emily Love
Division 3 Count 6						
	3	B-5629	45584.1.1	Brunswick	No accommodation needed (not in plan, not warranted by project area)	Pierre Tong
	3	BR -0181	BP3.R004	Brunswick	Accommodation In Plan, Recommend Further Review	Pierre Tong
	3	R-5857	Pending	Brunswick	Accommodation In Plan, Concur with Approach	Emily Love
	3	U-5926	N/A	New Hanover	Accommodation In Plan, Recommend Further Review	Emily Love

Reports by Division (Stage 1 Review Completed)

37.2
Avg Business Days to Review (Stage 1)

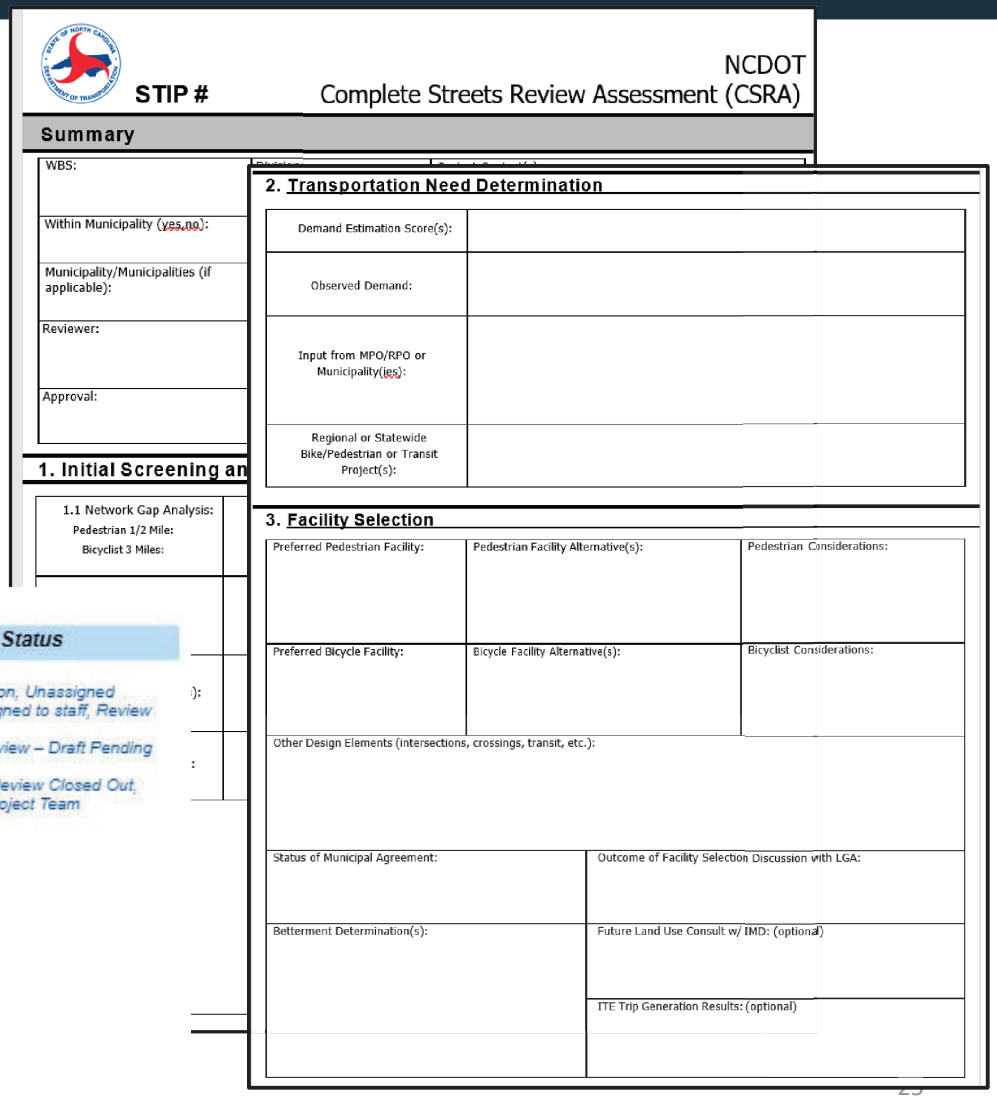
Tracking

- Complete Streets Review Assessment Form (CSRA)
  - Deliverable following review from staff
- Smartsheets Dashboard to report out real-time review status



Legend for Review Status

- *New – New Submission, Unassigned*
- *Under Review – Assigned to staff, Review Underway*
- *Comments Under Review – Draft Pending Final Review*
- *Review Complete – Review Closed Out, Memo Returned to Project Team*



Guidance Release

- Release of CS guidance and supporting materials to Connect NCDOT:
  - Evaluation Methodology *(new)*
  - Implementation Guide *(updated)*
  - FAQs *(updated)*
  - Project Sheet *(updated)*
  - CS Review Assessment Form *(new)*
  - Complete Streets Dashboard *(new)*

- Guidance release paired with online training sessions

Next Steps Summary

- Finalize and release guidance (today)
- Convene work groups
- Conduct trainings
- Collect data, monitor implementation, and identify additional improvements to guidance

Thank you!