



## *TOP<sup>3</sup>S Demo*

NCDOT Division of Planning and Programming  
October 6, 2016



# *Today's Roadmap*

- 1. Background and Planning Framework**
- 2. Strategic Prioritization Process**
- 3. Programming the STIP**
- 4. TOP<sup>3</sup>S**
- 5. Demos of Existing Products & Applications**

# *Background and Planning Framework*

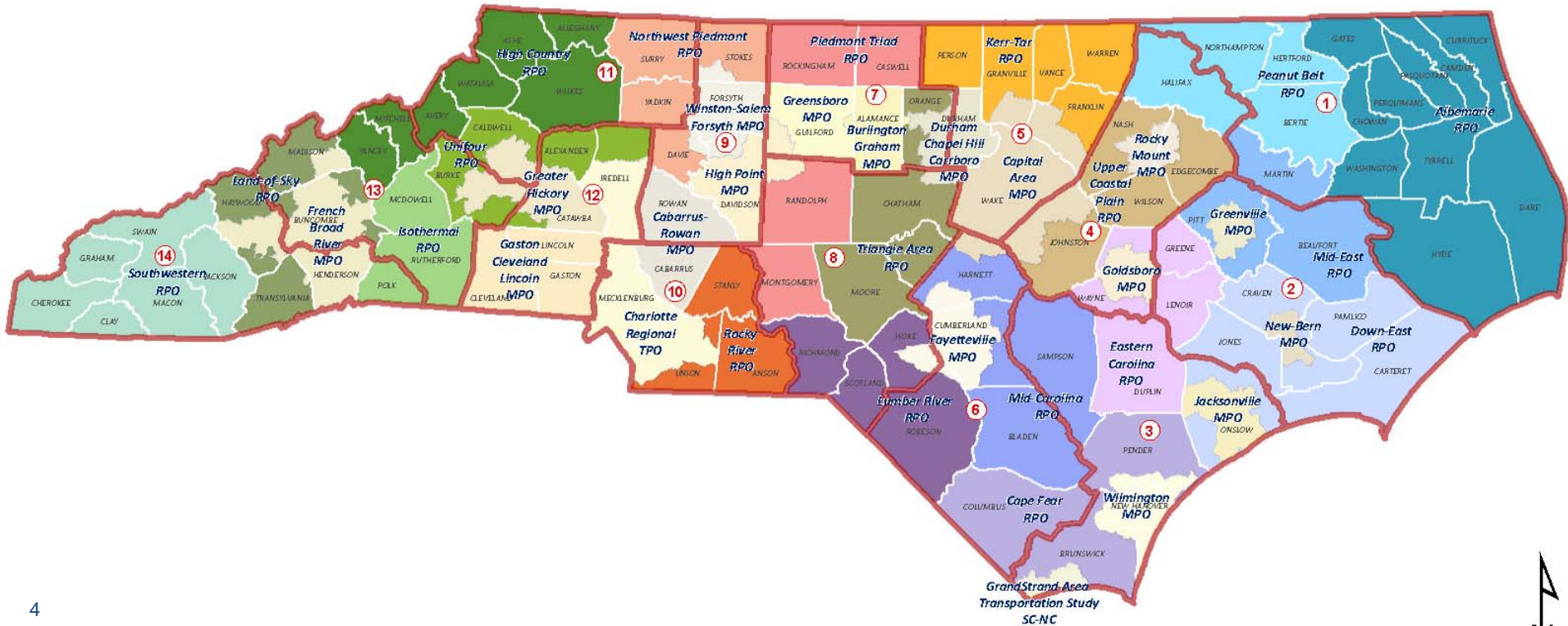


# Background

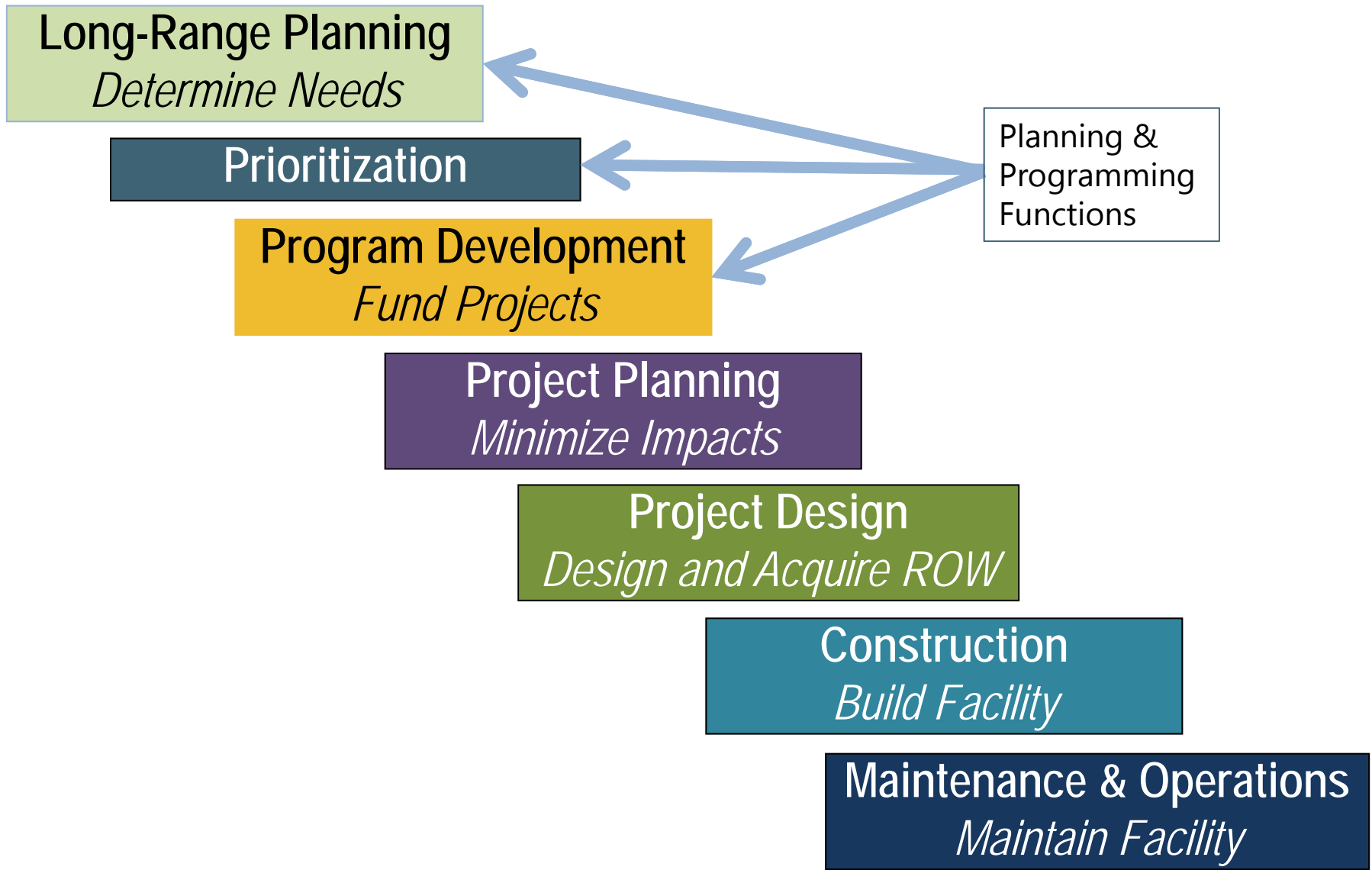
NCDOT funds six modes of transportation

Annual Budget of approx. \$4.4B\* (\$1.8B for STI)

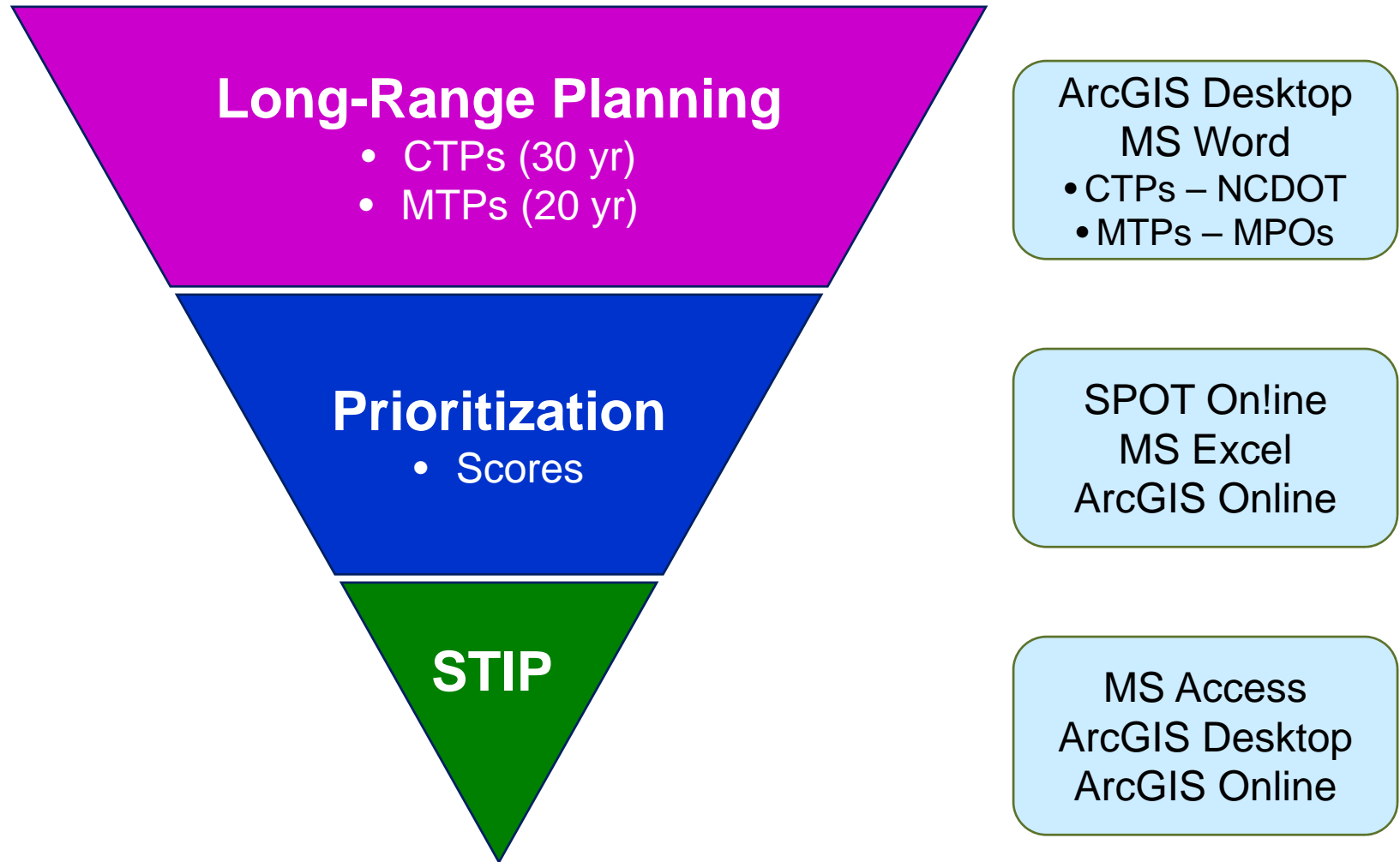
## Key Partners



# Transportation Program Life Cycle



# Planning, Prioritization, Programming Framework



# *Strategic Prioritization Process*



# *Strategic Transportation Investments (STI) Law*

**Prioritizes Capital Expenditures across all modes  
(Mobility/Expansion + Modernization)**

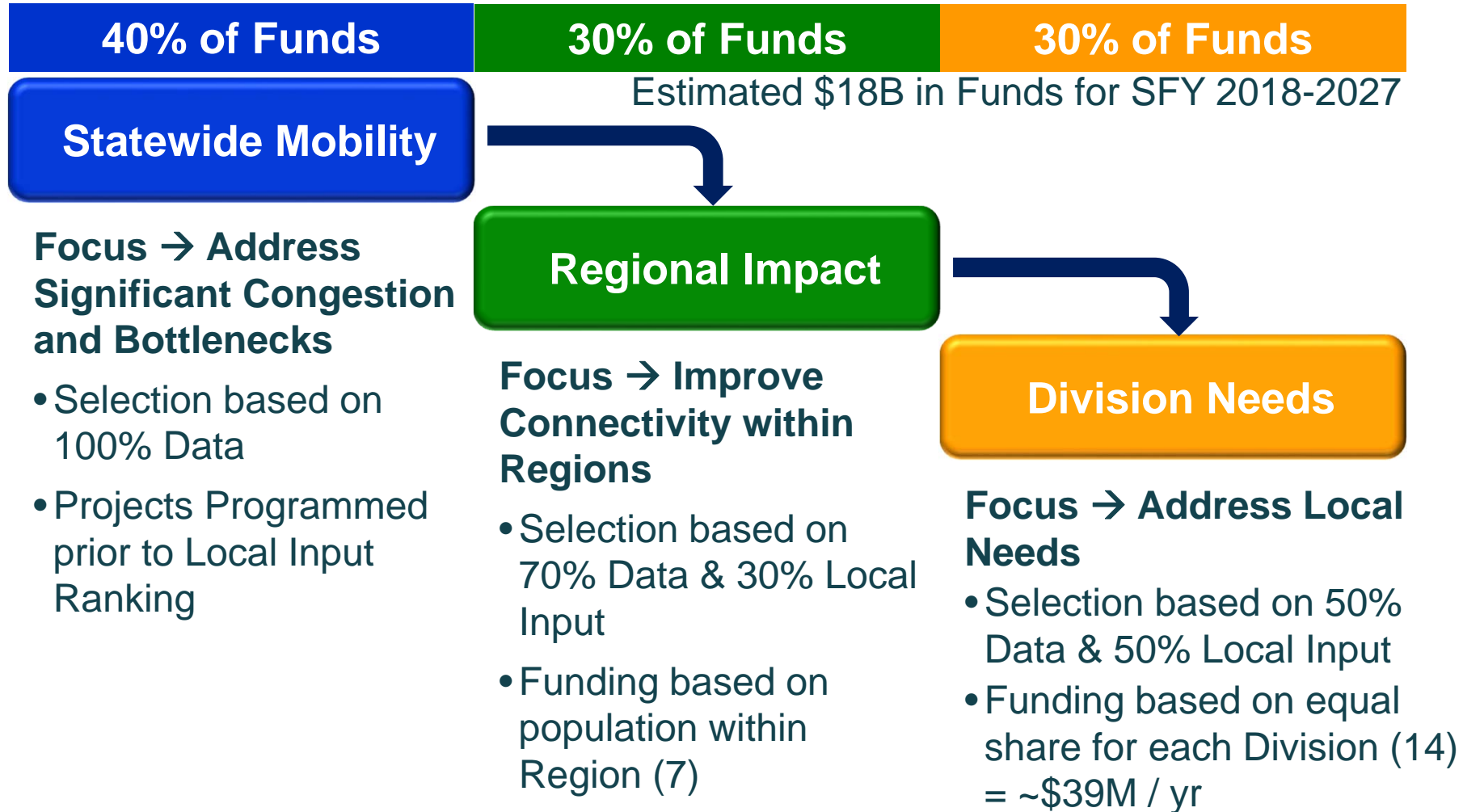
**Needs-based**

**Directly ties funding to Prioritization Results**

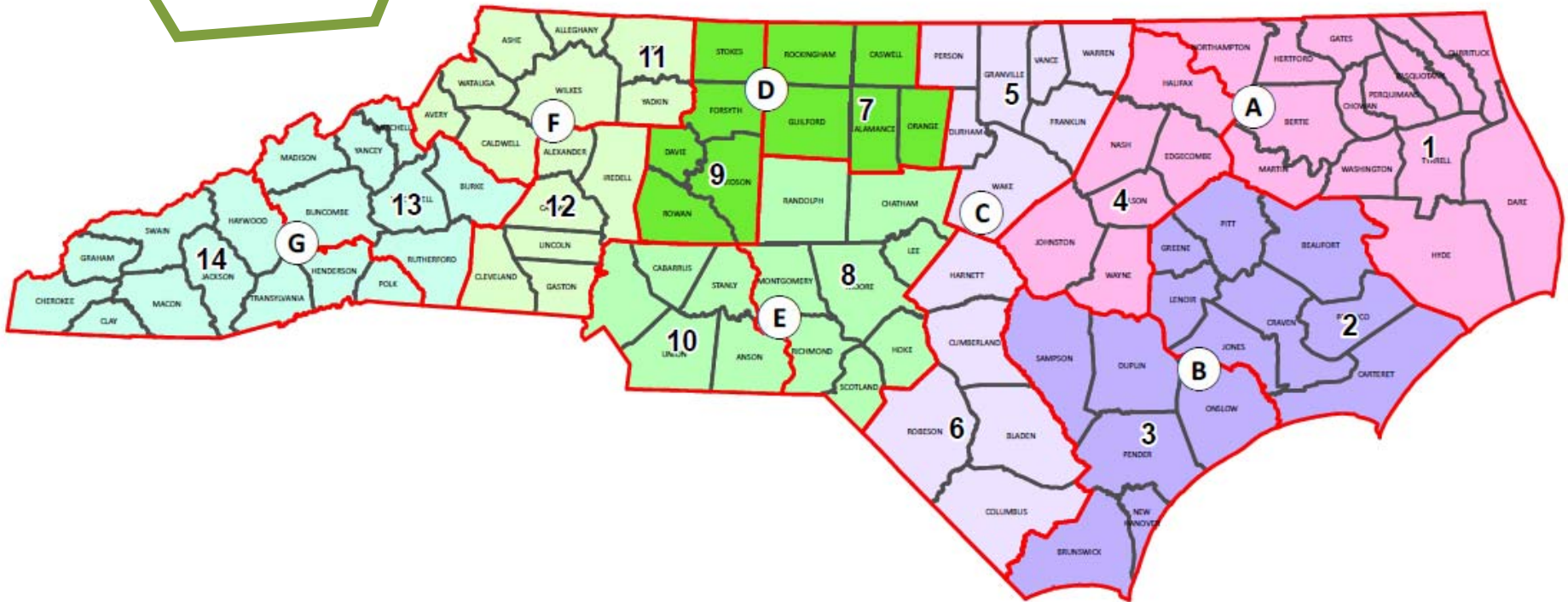
**Workgroup**



# How STI Works



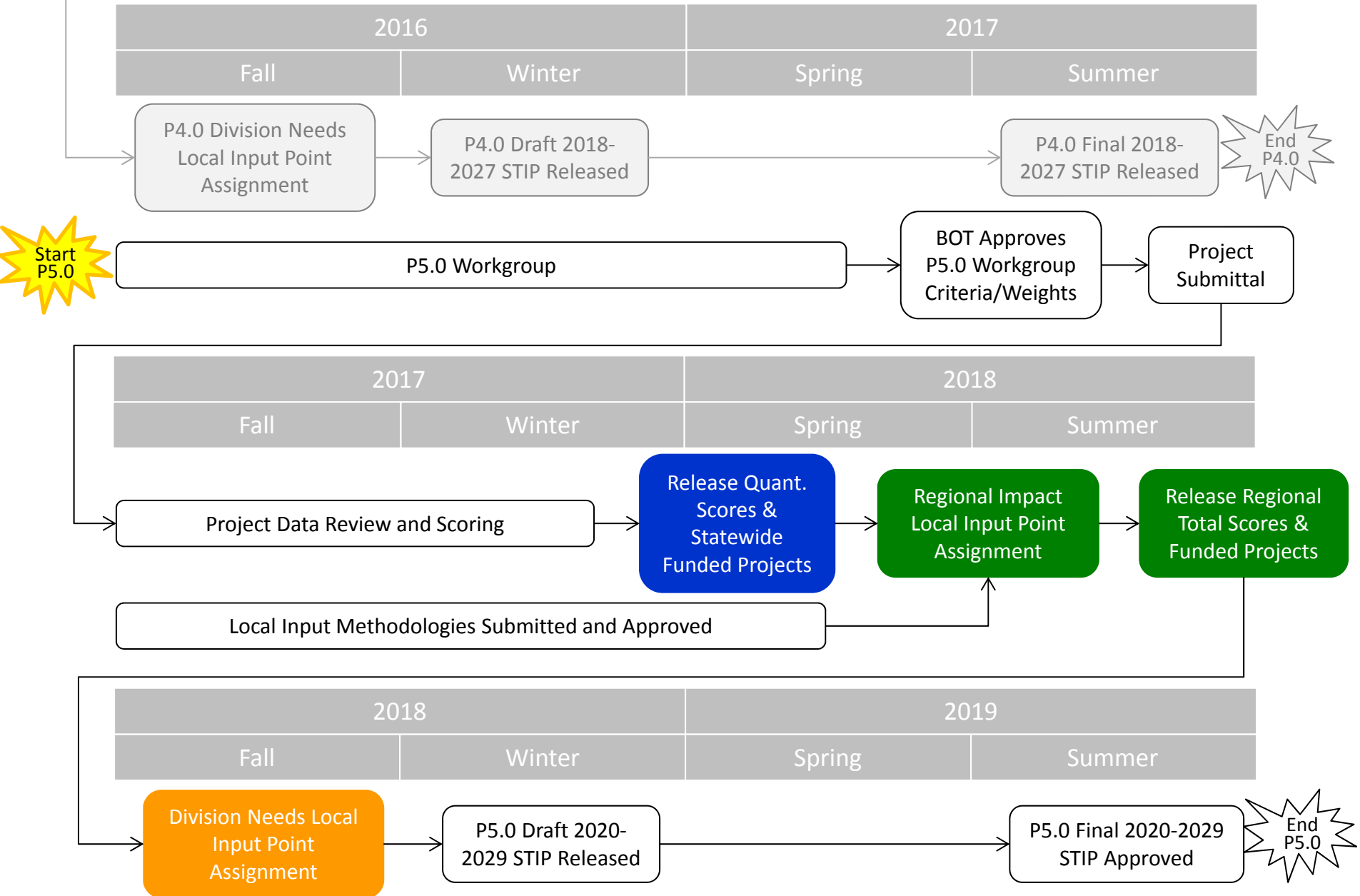
# regions & divisions



# Eligibility Definitions

Mode	Statewide Mobility	Regional Impact	Division Needs
Highway	<ul style="list-style-type: none"> <li>• Interstates (existing &amp; future)</li> <li>• NHS routes (July 1, 2012)</li> <li>• STRAHNET</li> <li>• ADHS Routes</li> <li>• Uncompleted Intrastate projects</li> <li>• Designated Toll Facilities</li> </ul>	Other US and NC Routes	All County (SR) Routes
Aviation	Large Commercial Service Airports (\$500K cap)	Other Commercial Service Airports not in Statewide (\$300K cap)	All Airports without Commercial Service (\$18.5M cap)
Bicycle-Pedestrian	N/A	N/A	All projects (\$0 state funds)
Public Transportation	N/A	Service spanning two or more counties (10% cap)	All other service, including terminals and stations
Ferry	N/A	Ferry expansion	Replacement vessels
Rail	Freight Capacity Service on Class I Railroad Corridors	Rail service spanning two or more counties not Statewide	Rail service not included on Statewide or Regional

# 3-Year Prioritization & STIP Cycle




# Workgroup Purpose

**GS 136-189.11 (h):** *the Department shall endeavor to continually improve the methodology and criteria used to score highway and non-highway projects pursuant to this Article, including the use of normalization techniques, and methods to strengthen the data collection process. The Department is directed to continue the use of a Workgroup process to develop improvements to the prioritization process.*

**Purpose: Provide recommendations to NCDOT on prioritization criteria, weights, and scoring process for all modes**

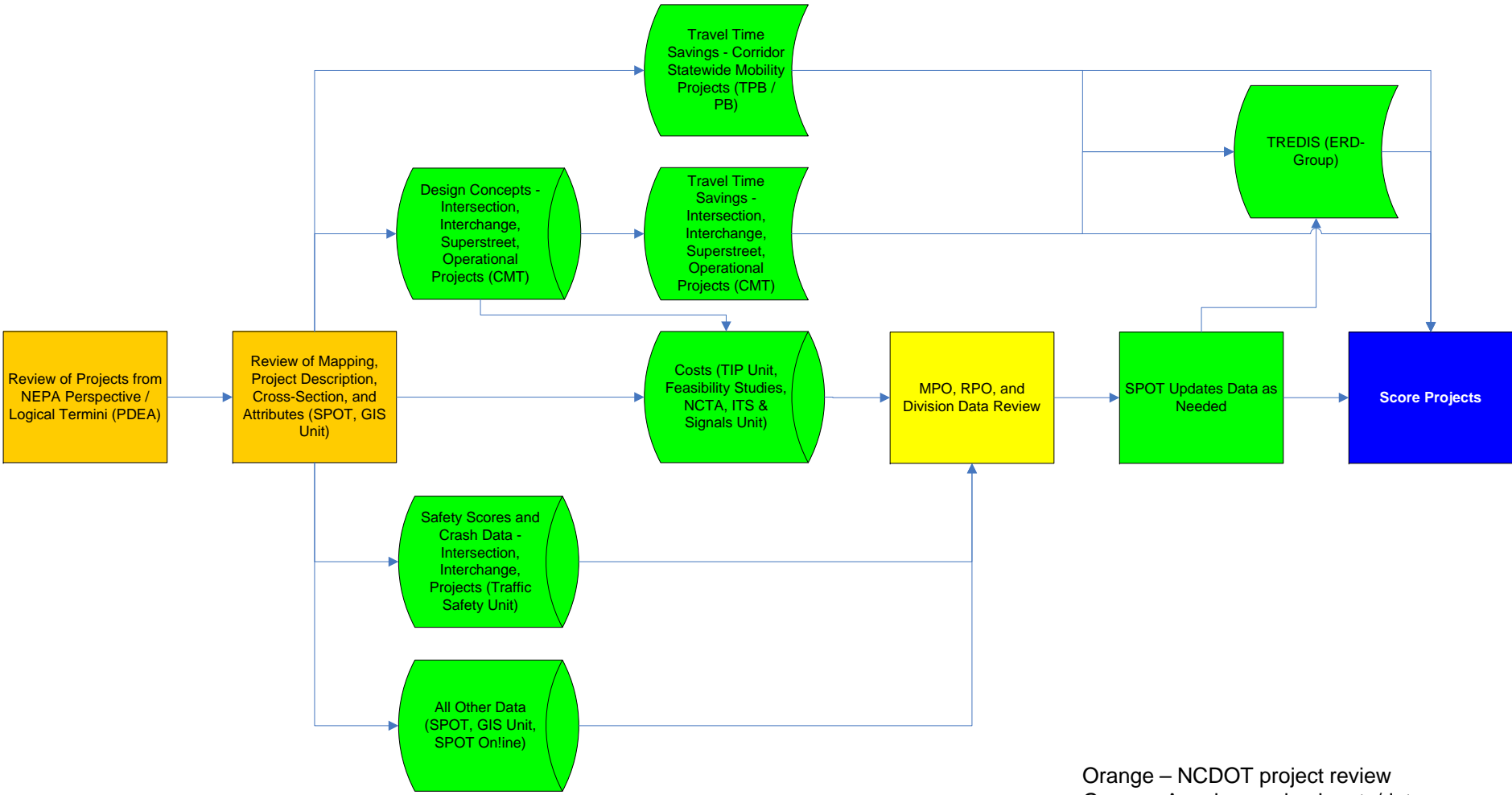
# Highway Scoring – Quantitative Criteria

<u>Criteria</u>	<u>Existing Conditions</u>	<u>Project Benefits (Future Conditions)</u>
- <b>Congestion</b> (Volume/Capacity + Volume)		
- <b>Benefit/Cost</b> (Travel Time Savings + Safety Benefits / Cost to NCDOT)		
- <b>Safety Score</b> (Critical Crash Rates, Density, Severity)		
- <b>Economic Competitiveness</b> (Jobs, Change in County Economy)		
- <b>Accessibility / Connectivity</b> (County Economic Indicator, Improve Mobility)		
- <b>Freight</b> (Truck Volumes, STRAHNet/Future Interstate, Freight Terminals)		
- <b>Multimodal</b> (Passenger Terminals)		
- <b>Lane Width</b> (Existing Width vs. Standard Width)		
- <b>Shoulder Width</b> (Existing Width vs. Standard Width)		
- <b>Pavement Score</b> (Pavement Condition Rating)		

# P4.0 Highway Scoring Criteria & Weights

Funding Category	<u>QUANTITATIVE</u>	<u>LOCAL INPUT</u>		
	Data	Division	MPO/RPO	
<b>Statewide Mobility</b>	Congestion = 30% Benefit-Cost = 25% Safety = 15% Economic Comp. = 10% Freight = 15% Multimodal = 5%	100%	--	--
<b>Regional Impact</b>	Congestion = 20% Benefit-Cost = 20% Safety = 10% Accessibility/Connectivity = 10% Freight = 10%	70%	15%	15%
<b>Division Needs</b>	Congestion = 15% Benefit-Cost = 15% Safety = 10% Accessibility/Connectivity = 5% Freight = 5%	50%	25%	25%

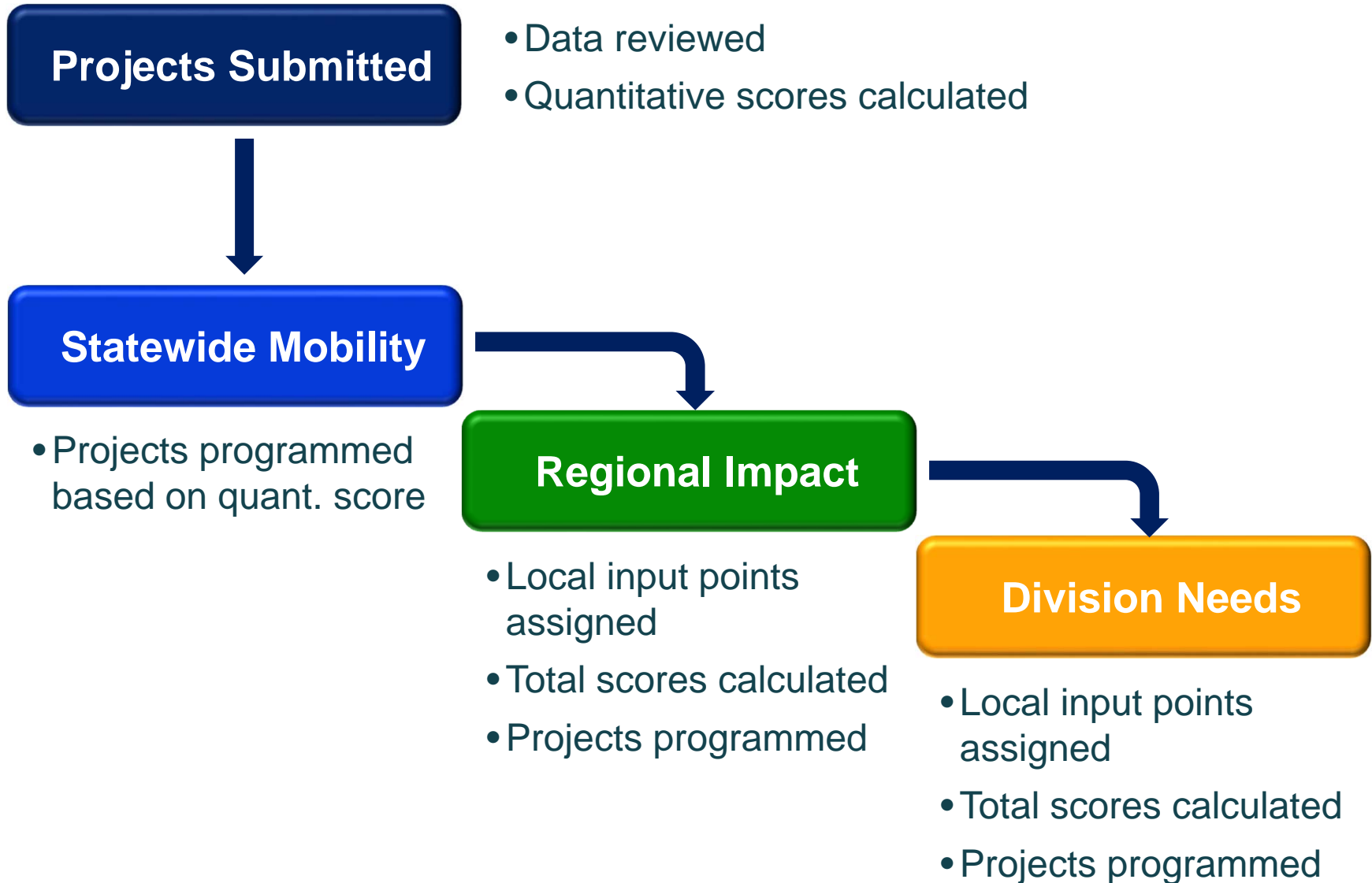
# P4.0 Scoring Process - Highways



Orange – NCDOT project review  
 Green – Acquire scoring inputs/data  
 Yellow – MPO, RPO, & Division data review  
 Blue – Score projects



# Scoring Process



# *Programming the STIP*



# *State Transportation Improvement Program (STIP)*

**STIP identifies funding and scheduling of projects in NCDOT's capital program**

## **10 Year Program (currently 2016-2025)**

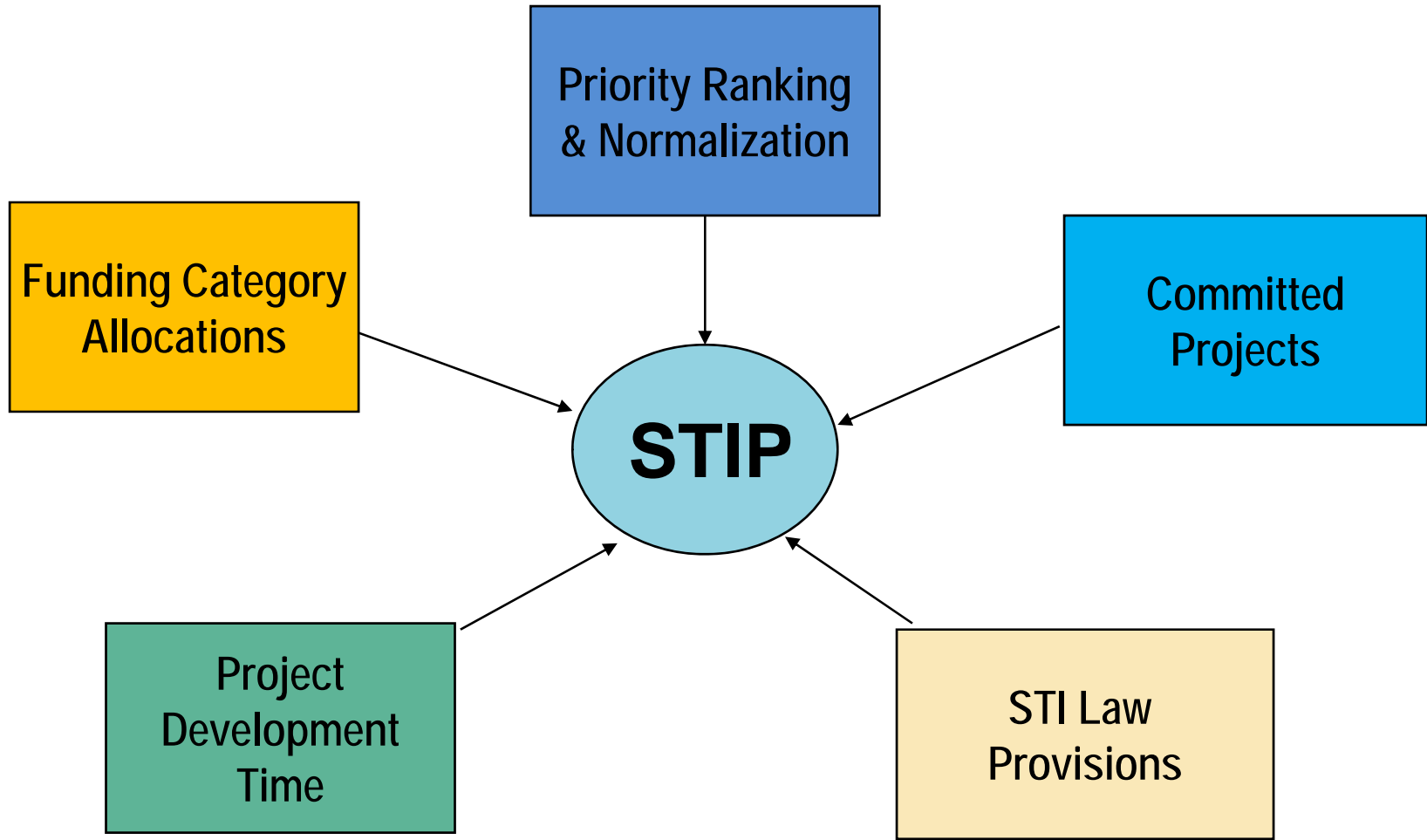
- 1st Five Years is “Delivery STIP” – committed projects from prioritization perspective
- 2nd Five Years is “Developmental STIP” – projects in early scoping and environmental development stage

**Updated every 2 years**

**Current STIP contains over \$20 Billion of projects**

- Highway, non-highway, bridges, safety, Interstate Maintenance, CMAQ

# *STIP Development*



# Scheduling Impacts to Programming

Project Ranking	Expected Project Delivery Time (Years)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	9		NEPA			Design		ROW		CON	
2	4	Design	ROW		CON						
3	1	CON									
4	5	Design		ROW		CON					
5	8		NEPA		Design			ROW		CON	

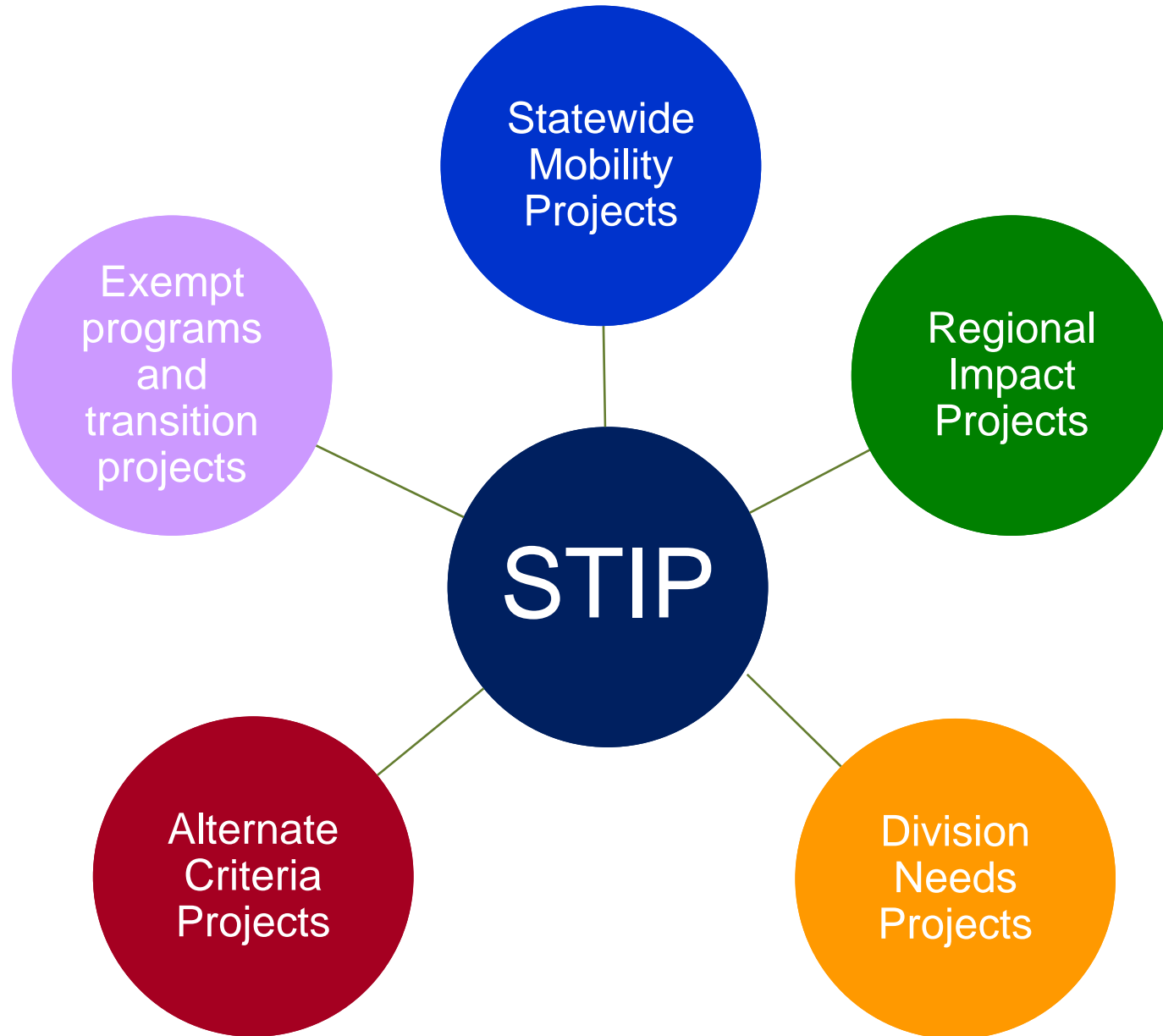
- Regardless of priority, projects cannot be programmed for Right of Way (ROW) or Construction prior to completion of planning/environmental (NEPA) and design work
- A lower scoring project that can be delivered soon may get scheduled prior to a higher ranking project that still needs extensive work

# *STI Legislation Funding Caps and Restrictions*

## **Caps which Impact Programming:**

- Statewide Mobility corridor cap
- Funding limits on airport projects in all categories
- Funding limits on Regional Impact transit projects
- Funding limit on light rail and commuter rail projects
- Prohibition on using state funds to match federal-aid for independent bicycle and pedestrian projects

# *Types of Projects in the STIP*



# *TOP<sup>3</sup>S*





# *Transportation On!ine Planning, Prioritization & Programming System*

**Project Data Repository (Spatial and Tabular)**

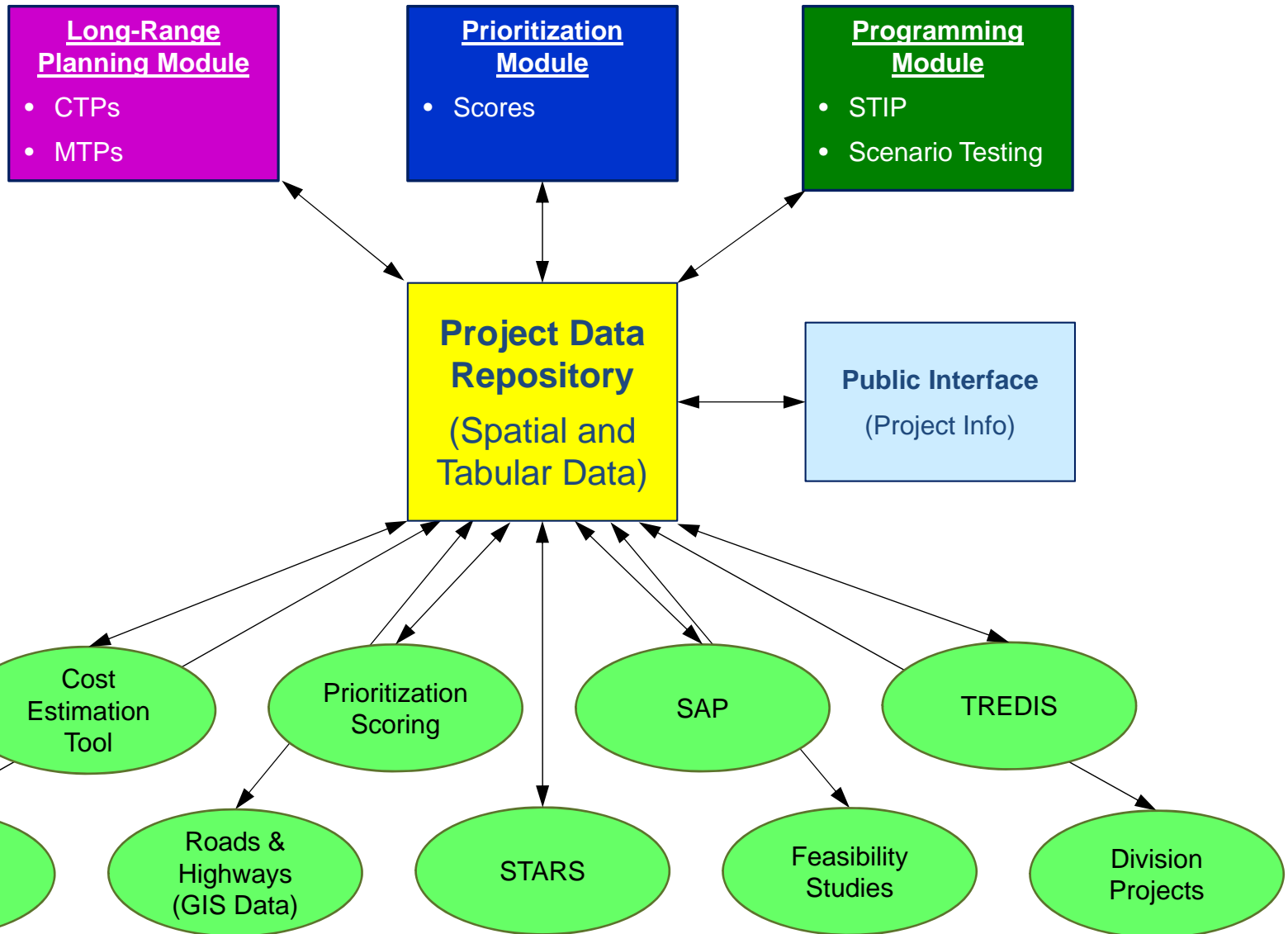
**Ultimately includes all projects**

**Initial focus on projects from Long-range Plans, evaluated through Prioritization Process, and Programmed in STIP**

**Different Modules with varying functionality (based on use)**

**Connects to multiple data sources & applications**

# TOP<sup>3</sup>S Overview



# *Demos of Existing Products & Applications*



# *Long-Range Planning*

Comprehensive Transportation Plans

Metropolitan Transportation Plans (fiscally constrained)

# *Prioritization*

**SPOT On!ine**

**Excel Spreadsheets**

**ArcGIS Online**

# *Programming*

**Access Databases**

**ArcGIS Online**

*The End*

**STRATEGIC  
TRANSPORTATION  
INVESTMENTS**  
*Smart decisions to keep North Carolina moving.*

<https://www.ncdot.gov/sti>

