

CTP – Interagency Coordination (Resilience)

Description

Include key resilience agencies early in the Comprehensive Transportation Plan (CTP) process to support the consideration and incorporation of resilience needs throughout the CTP development.

Responsibility

Transportation Planning Division (TPD) Engineer

Procedure

Step	Action												
1	<p>Identify additional members to include in the Interagency Coordination Protocol (ICP) process. This should include, but is not limited to, resilience leaders and stakeholders from local, regional, state, and (where applicable) federal agencies and organization that work in all phases of emergency management (hazard mitigation, disaster preparedness, response, and recovery).</p> <p><u>Example Agencies and Organizations:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> North Carolina Office of Recovery and Resiliency (NCORR) <input type="checkbox"/> North Carolina Emergency Management (NCEM) <input type="checkbox"/> North Carolina Department of Environmental Quality (NCDEQ), including the Division of Water Resources, Natural and Working Lands, and Division of Coastal Management. <input type="checkbox"/> North Carolina Department of Public Safety, Division of Emergency Management (NC DPS) <input type="checkbox"/> Local Government Departments relevant to CTP study area (Emergency Management, City Manager, Planning, Floodplain Administrator, Police/Fire, Finance, Public Works) <input type="checkbox"/> Federal Emergency Management Agency (FEMA) District 4 												
2	<p>Include expanded resilience list of interagency partners throughout the ICP process in accordance with the <i>Interagency Coordination Protocol Guidance</i>. This includes sending emails to resilience leaders and stakeholders, including regular updates throughout the CTP study process, requesting resources and data, and sharing documents for review and final distribution.</p> <p>Interaction between the ICP Resilience Action Points and CTP Process:</p> <table> <tr> <td>CTP Phase 1.1</td><td>Protocol 1: Initiate Contact</td></tr> <tr> <td>CTP Phase 2.2</td><td>Protocol 2: Coordinate with Agencies on Data and Goals</td></tr> <tr> <td>CTP Phase 2.2</td><td>Protocol 3: Validating Resource and Transportation Priorities</td></tr> <tr> <td>CTP Phase 4.3</td><td>Protocol 4: Coordinate on Project Proposals and Alternatives Analysis</td></tr> <tr> <td>CTP Phase 5.1</td><td>Protocol 5: Submit Draft Transportation Plan for Review</td></tr> <tr> <td>CTP Phase 5.2</td><td>Protocol 6: Submit Final Transportation Plan</td></tr> </table>	CTP Phase 1.1	Protocol 1: Initiate Contact	CTP Phase 2.2	Protocol 2: Coordinate with Agencies on Data and Goals	CTP Phase 2.2	Protocol 3: Validating Resource and Transportation Priorities	CTP Phase 4.3	Protocol 4: Coordinate on Project Proposals and Alternatives Analysis	CTP Phase 5.1	Protocol 5: Submit Draft Transportation Plan for Review	CTP Phase 5.2	Protocol 6: Submit Final Transportation Plan
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Next Steps

Next step coordination with agencies and stakeholders will occur as part of the ICP process. Identified contacts should also be invited to join the initial meeting.

Record of Revision

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CTP – Community Understanding Report Coordination (Resilience)

Description

Incorporate local resilience needs into the Community Understanding Report (CUR) to provide key information about the features of the planning area. This is relevant for a Comprehensive Transportation Plan (CTP) study and future development of transportation proposals. The CUR is used by the Rural Planning Organization (RPO) or Metropolitan Planning Organization (MPO) staff, the NCDOT Transportation Planning Division (TPD) Project Engineer and the CTP Steering Committee members.

Responsibility

The MPO or RPO coordinator and the Project Engineer. The TPD Group Supervisor should be kept up-to-date as appropriate.

Procedure

Step	Action
1	<p>Incorporate known resiliency needs and issues in coordination with the MPO/RPO and local county/city staff as part of the CUR.</p> <p><u>This includes two distinct coordination efforts of:</u></p> <ul style="list-style-type: none"> Notify the MPO/RPO and county/city staff in the start of study letter/email that relevant local/regional resilience stakeholders should be identified as a part of the CUR process. This action should be executed in alignment with existing CUR protocols, approximately three months prior to the establishment of the CTP Steering Committee, as directed by the TPD Group Supervisor. Identify and gather existing resilience information when the TPD Project Engineer calls or meets with the MPO/RPO Coordinator (e.g., through relevant plans and studies).

Next Steps

Establishment of the CTP Steering Committee members and stakeholders as part of the CUR process.

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CTP – Community Understanding Report Questions Update (Resilience)

Description

Update the Community Understanding Report to include more specific questions and data elements that are focused on resilience priorities and natural hazard concerns.

Responsibility

Transportation Planning Division (TPD) Group Supervisor

Procedure

Step	Action
1	<p>Incorporate data elements and update questions in Section 5. Public Safety/Emergency Response that are focused on resilience priorities and natural hazard concerns.</p> <p><u>Recommended data elements:</u></p> <ul style="list-style-type: none"> • Natural hazard layers • Disaster impacts (flood, fire) • Comprehensive Transportation Plan (CTP) basemap highlighting routes with identified resiliency issues. • Incorporate notes from the Steering Committee of known hazard areas or issues (i.e., areas with frequent flooding during large rainstorms) to help inform both questions, basemap development, and an understanding of priorities for resilience. <p><u>Recommended questions:</u></p> <ul style="list-style-type: none"> • The basemap identifies locations where prior or recurring events (flooding, wildfires, rockslides, and landslides) have disrupted travel and relevant to the development of the CTP. The locations are informed by NC data and field observation and prior vulnerability study (if applicable). <ul style="list-style-type: none"> ○ Are there any missing locations on the map and, if so, where are they located? [NCDOT could provide the map spatially or a table to drop in “from” and “to” info] ○ Are there other studies or local assessments conducted that would inform the list of routes and locations for plan development? [If so, please list the name of study/assessment and when it occurred]. ○ Are there other critical linkages that could be susceptible to hazards or vulnerable to future events to significant facilities (Interstates, US Highways, other) or to activity centers (major industries, major transportation terminals (air/sea/inland ports), military bases, other sites)? [NCDOT could provide the map spatially or a table to drop in “from” and “to” info] • Where applicable, what priorities for resilience to natural hazards are relevant to the transportation plan? Examples include addressing both known and unknown hazard impacts (i.e., flood impacts) or identifying potential impacts to Federal Emergency Management Agency (FEMA) identified community lifelines that the transportation network may or should be linked.

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Next Steps

Guidance for CUR Meeting

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CTP – Guidance for Community Understanding Report Meeting (Resilience)

Description

Include resilience questions as part of the Transportation Planning Division (TPD) staff considerations for the pre-Comprehensive Transportation Plan (CTP) and Community Understanding Report (CUR) discussion.

Responsibility

TPD Group Supervisor

Procedure

Step	Action
1	In alignment with existing CUR protocols during the TPD staff considerations for Pre-CTP/CUR discussion step, develop and add questions and discussion topics focusing on who works in resilience-related fields, the types of resilience questions, hazards in the community, or disaster impacts in the study area and related priorities and concerns.

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CTP – Community Understanding Report Data and Resources (Resilience)

Description

Request relevant hazard and disaster impact area or datasets (ArcGIS Shapefiles and other resources) of the local area from the NC Resilience Exchange website, and other sites as applicable, for the model being developed for the Comprehensive Transportation Plan (CTP) during the Community Understanding Report (CUR).

Responsibility

Transportation Planning Division (TPD) Group Supervisor

Procedure

Step	Action
1	Include any relevant hazard profiles or hazard data layers as part of the ArcGIS package clipped for the CTP development. This should include, but not be limited to, resilience considerations and hazards as well as land uses to assess resilience concerns to understand the different routes that would be impacted (links to resilient routes as a later step in the CTP)

Next Steps

Developing the community vision.

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CTP – Integrating Title VI into the CTP Process (Resilience)

Description

Historically disadvantaged populations protected under Title VI are often the most vulnerable to the impacts of natural disasters and climate change. The purpose of this procedure is to ensure that the Comprehensive Transportation Plan (CTP) public involvement process actively engage environmental justice (EJ) and protected populations that have disproportionately been affected by natural hazards. These efforts should be informed by strategies and techniques outlined in the *Transportation Planning Division (TPD) Methods of Public Engagement* guidance as well as the *Title VI Procedure*.

Responsibility

The Project Engineer will lead efforts to integrate Title VI considerations into the CTP process.

Procedure

Step	Action
1	Review the Title VI and Environmental Justice (EJ) populations in the study area by reviewing the Title VI and EJ maps previously created in the CTP Geodatabase.
2	Conduct targeted public involvement opportunities at communities identified in action step 1 using strategies outlined in the <i>TPD Methods of Public Engagement</i> guidance.
	<p>Additional data sources that can be used to cross-reference locations of Title VI and EJ communities include:</p> <p><u>NCDOT Tools</u></p> <p><input type="checkbox"/> NCDOT Transportation Disadvantaged Index (TDI) Dashboard Tool: https://www.arcgis.com/apps/dashboards/1f6618f5561145be82573a379f9fd7a4</p> <p><i>“The Environmental Justice, or EJ, dashboard allows you to view where environmental justice populations are concentrated in a specific, targeted geographic area. This dashboard also calculates a dynamic score based on the relative concentration of those populations in that selected area.</i></p> <p>Guidance: https://ncdot.maps.arcgis.com/home/item.html?id=729b46ba1e5f4328bf33a69d6afab0c6</p> <p>Downloads: https://ncdot.maps.arcgis.com/home/item.html?id=a675d03984744fe498a3f30a2c2e8200</p> <p><input type="checkbox"/> NCDOT Environmental Justice (EJ) Dashboard Tool: https://www.arcgis.com/apps/dashboards/23e0243d38554d0eaaee5d2e955583ca</p> <p><i>“For the N.C. Department of Transportation, environmental justice focuses on identifying and addressing potentially disproportionately high and adverse human health or environmental effects from transportation projects on minority and low-income populations.”</i></p>

Step	Action
	<p>Guidance: https://ncdot.maps.arcgis.com/home/item.html?id=729b46ba1e5f4328bf33a69d6afab0c6</p> <p>Downloads: https://ncdot.maps.arcgis.com/home/item.html?id=1e953718d95c4f80aaa5c464fc03e979</p> <p><u>State Tools</u></p> <p><input type="checkbox"/> N.C. Environmental Justice Hub https://www.ejhub.nc.gov/</p> <p><i>"The N.C. Environmental Justice Hub is a whole-of-government website that provides resources and information aimed at enhancing the health and wellbeing of all North Carolinians, especially communities exposed to environmental hazards and suffering from the effects of climate change."</i></p> <p><u>Federal Tools</u></p> <p><input type="checkbox"/> EPA Environmental Justice Screening and Mapping Tool https://ejscreen.epa.gov/mapper/ <i>"EJScreen is an EPA's environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators. EJScreen users choose a geographic area; the tool then provides demographic socioeconomic and environmental information for that area."</i></p> <p>Downloads: https://www.epa.gov/ejscreen/download-ejscreen-data</p> <p><input type="checkbox"/> The Climate and Economic Justice Screening Tool (CEJST) https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5</p> <p><i>"The Climate and Economic Justice Screening Tool (CEJST) is a geospatial mapping tool that identifies areas across the nation where communities are faced with significant burdens. These burdens are organized into eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development."</i></p> <p>Downloads: https://screeningtool.geoplatform.gov/en/downloads#3/33.47/-97.5</p>

Next Steps

Use the collected information and identified areas for outreach and engagement opportunities.

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CTP – Collect Data (Resilience)

Description

The purpose of this procedure is to provide a consistent methodology for gathering and presenting resilience data. In addition to resilience data that is available as GIS layers, plans and studies may provide information on hazards and known locations of concern. This resilience data is used during the Comprehensive Transportation Plan (CTP) process to develop and evaluate resilient long range planning transportation solutions, alternatives, and scenarios.

The data and tools collected in this step will be used to identify resilience needs and support the evaluation of transportation improvement alternatives for the CTP.

Responsibility

It is the responsibility of the Transportation Planning Division (TPD) Project Engineer (PE) to:

- Collect all applicable resilience-related GIS layers.
- Use the template to create a Resilience Map of the resilience-related environmental data to be used during the CTP process.
- Consult with appropriate resilience staff, agency representative(s), or local contacts to identify hazards or vulnerable areas that are not reflected in the GIS layers.

Scheduling and Time Constraints

The collection of resilience data should be completed before the deficiency analysis is conducted.

Procedure

Step	Action
1	<p>Begin with the resilience-related data included in the CTP geodatabase “Environmental” feature dataset.</p> <p><u>Relevant resilience data from the CTP Geodatabase are:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Road Inundation Points Feature Class <input type="checkbox"/> Flood Hazard Area Feature Class
2	<p>Collect resilience-related data not included in CTP geodatabase.</p> <p>The maps should include inundations for 25-, 50-, and 100-year recurrence intervals, with the following analysis parameters:</p> <ul style="list-style-type: none"> • 100-year recurrence for interstates and future interstates • 50-year recurrence for US and NC routes • 25-year for all other roads (e.g., local) <p>Data sources:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Coastal Roadway Inundation Simulator (CRIS) https://raft.nc.gov/login.php <input type="checkbox"/> NCORR NC Resilience Exchange https://www.resilienceexchange.nc.gov/ <ul style="list-style-type: none"> • Climate projections and observations by location and hazard • Statewide vulnerability maps by hazard • Links to other data sources

Step	Action
	<ul style="list-style-type: none"> <input type="checkbox"/> NCDOT Resilience Improvement Plan (RIP) Data https://www.ncdot.gov/initiatives-policies/Transportation/transportation-resilience/Pages/studies-reports.aspx <ul style="list-style-type: none"> • RIP statewide criticality maps • RIP project scoring and priority list <input type="checkbox"/> Flood Inundation Mapping and Alert Network for Transportation (FIMAN-T) https://espgis.com/FIMAN_T/ <ul style="list-style-type: none"> • Real-time and some forecasted flood impacts to roads, bridges, and other NCDOT assets <input type="checkbox"/> DriveNC https://drivenc.gov/#incidents <ul style="list-style-type: none"> • Real-time travel information, including road conditions and incidents <input type="checkbox"/> Geotechnical Asset Management (GAM) https://ncdot.maps.arcgis.com/home/item.html?id=6908e4d9497d462c90c0101b50308bd1 <ul style="list-style-type: none"> • Locations and other documentation of rockslide, rockfall, landslide, and embankment failure areas under NCDOT jurisdiction <input type="checkbox"/> Bridge Watch Request data from Kurt P. Golembesky (kpgolembesky@ncdot.gov), NCDOT Statewide Programs – Highway Floodplain Program Engineer. <ul style="list-style-type: none"> • Real-time information on bridge conditions <input type="checkbox"/> Disaster Recovery Request inventory of repair work and emergency relief funding locations from Keith Billy, NCDOT Disaster Recovery Engineer.
3	<p>The TPD engineer should determine whether the local area being studied has a Hazard Mitigation Plan, participated in the Regional Resilience Portfolio Program, or developed any other resiliency planning document. If so, review the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Data identified through a review of Hazard Mitigation Plans <input type="checkbox"/> Data identified through a review of the Regional Resilience Portfolio Program https://www.rebuild.nc.gov/resiliency/resilient-communities/rise/portfolio <input type="checkbox"/> Data identified through any other resiliency planning effort, including vulnerability assessments and resilient routes plans. <p>If the region or area has one of the above plans/programs, review and document any information in the CTP study area. The plan may include information related to a community resilience vision, which can be used in Phase 2 or existing condition information that can be referenced in Phase 4. Any recommendations or projects specific to infrastructure or roadways may be considered in Phase 4 and 5 as well.</p>

Step	Action
4	<p>Collect and review federal, state, local and regional resilience policy, and guidelines.</p> <p><u>Resources:</u></p> <ul style="list-style-type: none"> • NCDOT Resilience Policy • NCDOT Resilience Improvement Plan • Home Page NC Resilience Exchange • NCDOT Annual Climate Strategy Report • Federal Guidance <ul style="list-style-type: none"> ○ Federal Highway Administration Order 5520: Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events ○ FAST Act § 1201; 23 U.S.C. 134 • State Guidance <ul style="list-style-type: none"> ○ Executive Order 80
5	<p>The TPD engineer should contact the local planning departments(s), the Rural Planning Organization (RPO) or the Metropolitan Planning Organization (MPO) in the CTP study area, agency representatives, and any other stakeholder contacts to find if any resilience planning has been done outside of the above plans/programs and if there are any other resources that would be useful to include. These can also be used to help identify potential resilience needs.</p>

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