

## **EXISTING ROADWAY CONDITION ASSESSMENT REPORT (ERCAR) SAMPLE OUTLINE**

The Existing Roadway Condition Assessment Report (ERCAR) should include the evaluation of all elements against new construction criteria. The evaluation/discussion for each section or element should identify the following:

- Existing value
- Method of measurement or collection of data
- New construction criteria or criteria the element was evaluated against
- Crash data analysis applicable to each element or section (include analysis of severity index of existing feature vs. proposed feature)
- Quantity to correct including cost
- Recommendation shall include impacts to ancillary elements: (i.e. permitting, utilities, lighting, etc.)

The following is a sample ERCAR outline that indicates the major components that should be evaluated. It is expected that the Design Consultant will modify the outline and associated report table of contents as appropriate for the project.

### **1.0 PROJECT DESCRIPTION**

- 1.1 Introduction
- 1.2 Project Location
  - Include Project Location Map
- 1.3 Project Scope
  - 1.3.1 Design Criteria
  - 1.3.2 Proposed Design
  - 1.3.3 Safety Improvement
  - 1.3.4 Permit Requirements
  - 1.3.5 Tentative Five-Year Work Program
    - List Turnpike projects scheduled in the Tentative Five-Year Work Program that are within or adjacent to the subject project corridor.

### **2.0 ROADWAY ELEMENTS**

- 2.1 Geometric Evaluation
  - 2.1.1 Design Speed & Posted Speed
  - 2.1.2 Horizontal Geometry
  - 2.1.3 Horizontal Stopping Sight Distance
  - 2.1.4 Vertical Geometry

- 2.1.5 Vertical Stopping Sight Distance
- 2.1.6 Pavement Cross Slope & Superelevation
- 2.1.7 Lane and Shoulder Widths
- 2.1.8 Border Width
- 2.1.9 Median Width
- 2.1.10 Ramp Terminals
  - Type (Taper, Parallel)
  - Length of Acceleration/Deceleration
  - Terminal Spacing
- 2.1.11 Intersection Sight Distance
- 2.2 Guardrail, Cable Barrier and Concrete Barrier Wall
  - 2.2.1 Condition, Height & Offset
    - Need for rub-rail, offset block condition and type
  - 2.2.2 Side Slopes Behind Barrier
  - 2.2.3 Barrier Length of Need
  - 2.2.4 Dynamic Deflection Distance
  - 2.2.5 End Terminals
  - 2.2.6 Barrier Transitions
  - 2.2.7 Maintenance Access Points
- 2.3 Curb, Gutter, Sidewalks, Curb Ramps, and Bicycle Facilities
  - Condition & Applicability
  - ADA compliance
- 2.4 Side Slopes
  - Condition
  - Recoverability
  - Protection or reconstruction requirements
- 2.5 Canal Hazard Protection
- 2.6 Median Crossovers
- 2.7 Crash Data Analysis
- 2.8 Tolling Point Evaluation
- 2.9 Pavement Evaluation
  - Visual assessment to indicate areas of concern
  - Summary of previous resurfacing projects
  - Drop-off issues
  - Budgetary Pavement Sections

## 3.0 STRUCTURES

### 3.1 Existing Bridges

- Indicate all existing bridges in the project limits.
- Bridge names should include both the feature carried and crossed by the bridge. Please do not use the terms “Underpass” and “Overpass” as their definitions are subject to interpretation.
- Provide the bridge numbers.
- Indicate the traffic direction.
- Provide a milepost location.
- For projects with more than one bridge, present the data in tabular format.

### 3.2 Bridge Shoulder Width

- Indicate the bridge shoulder widths for every Turnpike owned/maintained bridge in the project limits.
- Indicate the source of the data (existing plans, etc.).
- Compare the values to criteria values (give the criteria source).
- Indicate the disposition of the widths (OK, Design Variation required, Design Exception required).
- Evaluate and suggest corrective actions as applicable.
- For projects with more than one bridge, present the data in tabular format.

### 3.3 Bridge Deck

- Indicate if the existing bridge deck is grooved or ungrooved.
- For projects with more than one bridge, present the data in tabular format.

### 3.4 Expansion Joints

- Indicate the type and existing condition of the expansion joints for every Turnpike owned/maintained bridge in the project limits.
- Give source of condition (field visit, inspection reports, etc.).
- Coordinate with Turnpike Maintenance if joints require upgrades.
- Indicate potential upgrades as necessary.
- For projects with more than one bridge, present the data in tabular format.

### 3.5 Load Ratings

- Indicate the controlling rating for Turnpike owned/maintained bridge in the project limits.
- Indicate the year and design methodology used in the rating.
- Document locations where loads may change due to the project (ex: asphalt overlay, barrier retrofits, etc.).
- For projects with more than one bridge, present the data in tabular format.

### 3.6 Traffic Railings

- Indicate the existing condition (rail type and index number when available) for every Turnpike owned/maintained bridge in the project limits.
- Indicate the source of the data (existing plans, etc.).
- Indicate the disposition of the existing railing (OK, Grandfathered, Substandard, etc.) (give the criteria source)
- Indicate potential upgrades for substandard railings.
- Discuss potential factors to be considered (ex: deck strength, load rating, etc.).
- For projects with more than one bridge, present the data in tabular format.

### 3.7 Thrie-beam Connection

- Indicate the existing condition (connection type) for every Turnpike owned/maintained bridge in the project limits.
- Provide the existing condition data (wing length, structure type, etc.) required to select the appropriate scheme from the Standards.
- Indicate the required scheme number.
- Identify any other issues (ex: utilities/pull boxes in the barrier that might conflict).
- For projects with more than one bridge, present the data in tabular format.

### 3.8 Minimum Vertical Clearance

- Provide the minimum vertical clearance (MVC) for every structure in the project limits – this includes mainline bridges, bridges over the mainline, and bridges over water.
- Indicate the source of the data (existing plans, as-builts, field measured, etc.).
- Compare the MVC values to criteria values (give the criteria source).
- Indicate the disposition of the MVC (OK, Design Variation required, Design Exception required).
- Suggest corrective actions as applicable (ex: mill and resurface under the bridge to restore vertical clearance to required value).
- For projects with more than one bridge, present the data in tabular format.

### 3.9 Horizontal Clearance/Pier Protection

- Provide the minimum horizontal clearance (MHC) for every structure in the project limits – this includes mainline bridges and bridges over the mainline.
- Indicate the existing pier protection features (type and index number when available).
- Indicate the source of the data (existing plans, as-builts, field measured, etc.).
- Compare the MHC values to criteria values (give the criteria source).
- Indicate the disposition of the MHC (OK, Design Variation required, Design Exception required).
- Evaluate the existing pier protection features per FDOT Structures Design Guidelines Chapter 2.6 and suggest corrective actions as applicable.

- For projects with more than one bridge, present the data in tabular format.
- This section of the report should address the MHC requirement as well as the Existing/Required protection systems for both the inside and outside lanes for each span separately.

### 3.10 Culverts & Farm Crossings

- Summarize condition based on current inspection reports.
- Summarize field verification of condition.
- Provide MHC for all headwalls (can be presented in Bridge or Roadway Section of Report).
- Indicate the existing headwall protection (guardrail, traffic railing barrier, etc.).
- Identify culverts containing silt, which require action. Coordinate de-silting requirements/recommendations with Drainage.
- Indicate the source of the data (existing design plans, as-built documents, field measurements, etc.)
- For projects with more than one culvert, present the data in tabular format.

### 3.11 Sign Structures

- Indicate all existing overhead sign structures in the project limits.
- Provide the sign structure numbers.
- Provide a MP location.
- Indicate the year of design (provide source of data).
- Provide MHC and MVC for all sign structures. Verify if setback requirements are met with current protection. This information can be presented in the Bridge or Roadway Section of Report. (Setback is also required for bridge mounted sign structures.)
- Indicate the existing sign structure protection (guardrail, traffic railing barrier, etc.).
- Indicate the source of the data (existing design plans, as-built documents, field measurements, etc.)
- Indicate any existing overhead sign structures that may require evaluation per FDM 261.7 and the reason for the evaluation (Ex: recommendation to replace sign panel in Section 5.0 – Signing).
- For projects with more than one sign structure, present the data in tabular format.

### 3.12 Signal Structures

- Indicate all existing signal structures in the project limits.
- Provide the signal structure numbers.
- Provide a MP location.
- Indicate the year of design (provide source of data).
- Provide MHC and MVC for all signal structures. Verify if setback requirements are met with current protection. (This information can be presented in the Bridge or Roadway Section of Report)

- Indicate the existing signal structure protection (guardrail, traffic railing barrier, etc.).
- Indicate the source of the data (existing design plans, as-built documents, field measurements, etc.).
- Indicate any existing signal structures that may require evaluation per FDM 261.7 and the reason for the evaluation (Ex: recommendation to add backplates in Section 6.0 – Signalization).
- For projects with more than one signal structure, present the data in tabular format.

### 3.13 Other

- Address any project-specific items/issues.

## 4.0 DRAINAGE

### 4.1 Cross Drains

- Review maintenance inspection reports for known issues.
- Discuss options considered for repair deficiencies.
- Provide recommendation for each deficient cross drain.

### 4.2 Drainage System

#### 4.2.1 End Treatments

- Provide a list of all end treatments within the project limits.
- Indicate distance from edge of travel lane to end treatment.
- Identify end treatments within the clear zone and whether they are protected by a barrier.
- Identify erosion around end treatments.
- Identify end treatments with missing object markers.
- Provide photographs of end treatments with deficiencies.

#### 4.2.2 Other Systems

- Identify damaged structures.
- Identify damaged pipes (such as pipe settlement and joint failure) and pipes that need desilting.
- Identify missing grates.
- Identify structures within the clear zone.
- Identify shoulder gutter with missing terminal inlets and indicate whether or not this is causing erosion of the embankment.
- Identify locations where shoulder gutter is required, but not provided (see FDOT Drainage Manual, Chapter 3.7.3) and indicate whether or not this is causing erosion of the embankment.
- If erosion noticed where there is gutter with inlets and no other cause is noticed, provide gutter/spread calculations to verify that spread criteria is met.

- Identify erosion remediation and protection measures.
- Provide photographs of structures/pipes with deficiencies in addition to locations of erosion requiring repair.

#### 4.3 Proposed Drainage Improvements

- Recommend proposed drainage maintenance tasks to be coordinated with Turnpike Maintenance during ERCAR development.
- Recommend what drainage tasks require additional follow up with Turnpike Maintenance once final design begins.
- Recommend proposed drainage design.
- Provide cost estimate for drainage repairs.

### 5.0 SIGNING

#### 5.1 Sign Assessment

#### 5.2 Sign Replacement Options

- Critical sign replacement only
- Critical and optional sign replacement
- Blanket sign replacement

#### 5.3 Recommendations

- Cost estimate

Sign Inventory Photo Log – To be included in the Appendix (see attached Sign Inventory Photo Log Guidelines and Template).

### 6.0 SIGNALIZATION

#### 6.1 Signalization Inventory

#### 6.2 Signalization Evaluation

### 7.0 LIGHTING

#### 7.1 General Description

- Describe the type and general condition of the existing light fixtures and poles.

#### 7.2 Horizontal Clearances for Light Poles

- Verify that the existing conventional and highmast lighting meets current clearance requirements.

#### 7.3 Breakaway Requirements for Poles

- Verify that the existing conventional and highmast lighting meets current breakaway requirements.

#### 7.4 Review of Existing Areas of Illumination

- Review the following areas within the project limits and note any observable deficiencies with the existing lighting layout:

- Toll Plazas including associated parking lots
- Service Plazas
- Ramps/Interchanges
- Transitions to adjoining roadways
- Review the roadway lighting within and adjacent to the project limits and note any gaps in lighting where the gap is 0.5 miles or less between lighted areas.

#### 7.5 Potential safety and/or maintenance items

- Review all fixtures and poles for potential safety and/or maintenance issues. The following are some of the conditions that Turnpike has observed:
  - Light poles that have been struck and damaged by vehicles
  - Light fixtures that are not functioning
  - Light fixtures that appear to be at the end of their useful life
  - Structural condition of pole bases and/or support of underdeck fixtures

## 8.0 UTILITIES

Note: ITS is not considered a utility. All information regarding ITS facilities is to be included in Section 9.0 ITS.

### 8.1 Existing Utility Agency/Owner (UAO)

- Identify all UAOs within or adjacent to the project. Describe the type, size, material, and when applicable, the voltage of the UAO facility (Ex: buried telephone duct bank; 13kV aerial electric; 10-inch DIP water main; etc.) and identify the following:
  - The location of existing underground and aboveground UAO facilities.
  - The location and approximate dimensions of existing UAO easements.
  - Existing utility permits and permit conditions associated with each UAO's facilities.
  - Proposed future UAO facility improvements.

### 8.2 Potential Impacts

- Identify potential project impacts to the UAO's existing facilities and provide the following:
  - Provide preliminary cost estimates to relocate UAO facilities that will be impacted by the proposed improvements, and provide preliminary timeframes for the relocations.
  - If applicable, coordinate with the EOR to identify potential Florida Gas Transmission Company (FGT) triggering events and potential design, cost and schedule impacts to the project which may be incurred in order to avoid or mitigate FGT relocations.



## 9.0 ITS

### 9.1 General Description

- Provide general visual inspection, device summary table, pictures and location information (in KMZ format) of the following ITS infrastructure:
  - Splice Vaults
  - Device Site
  - Power service points and power sources
- Perform general visual inspection of the following and identify any replacements/repairs/adjustments.
  - Fiber Infrastructure (fiber markers)
  - Pull boxes and junction boxes
  - Cabinet equipment such as switches, encoders, power supplies, fans, lights, etc.
  - Maintenance pads (or lack of) under ITS cabinet and around poles

### 9.2 Deficiencies

- Verify horizontal and vertical clearance requirements.
- Note potential safety, maintenance and any other deficiencies.
- Review as-built plans for ITS facilities in the project area and identify any over builds or additional devices added to each site.
- Include potential recommendations to address the deficiencies.

### 9.3 Potential Impacts

- Identify potential impacts based on the recommended project improvements.
- Provide potential options for mitigating impacts to existing ITS system.
- Provide cost estimate to mitigate deficiencies and/or address project impacts.

## 10.0 ENVIRONMENTAL

Note: Environmental evaluation and analysis should only occur and be documented for those project areas where there are improvements recommended as part of the design elements identified above. An environmental evaluation should not be conducted for the entire project corridor.

### 10.1 Existing Conditions

- Identify existing data used for areas impacted by recommended improvements.
- Identify potential environmental areas of concern for areas of recommended improvements.
  - Jurisdictional areas (wetlands/other surface waters) for areas of recommended improvements
  - Listed species (regionally and site specific) and potential impacts to each based on recommended improvements
  - Bat habitation in areas of recommended improvements (include information from bridge inspection reports), field review as needed

## 10.2 Existing Permits

- Identify existing permits within the areas impacted by recommended improvements.
- Identify potential mitigation bank options for anticipated wetland and listed species impacts associated with recommended improvements.

## 10.3 Potential Natural Resource Impacts

- Identify each proposed recommended improvement and its impact to wetland, other surface water or listed species and if permitting is required or schedule restrictions may occur. Include schedule restrictions within respective section of the report.
- Additional surveys recommended during design.

## 10.4 Permit Requirements

- State permits anticipated based on the recommended improvements.
- Federal permits anticipated based on the recommended improvements.
- Local permits anticipated based on the recommended improvements.

## 11.0 SUMMARY OF RECOMMENDATIONS

- Summary of recommendations for:
  - Roadway improvements
  - Safety improvements
  - Application of Design Variation/Exception
  - Documentation to remain (based on justifications such as practical design, feasibility to construct, etc.)
- Summary of recommendations should be presented in tabular format with cross-references to applicable sections of the report where the recommendation is detailed.
- Include a tabular cost estimate for all applicable recommendations.

## APPENDICES

- Sign Inventory Photo Log
- Include applicable backup or supporting data