# Florida's Turnpike Enterprise

## Roadway Design - Phase Submittals: ***Best Practice Checklist***

**FPID:** 000000-1-52-1 **Proj Desc:** _____

**Date:** _____ **GEC PM:** _____

**Submittal:** [Select One] **Consultant PM:** _____

| Design Component | Complete | N/A |
|---|---|---|

## I. Horizontal Geometry

(a) Evaluate existing and new median crossovers for conformance to applicable criteria (FDM 211.3.2.1, AASHTO, etc) and coordinate with Turnpike Traffic Operations and Emergency Management. ☐ ☐

(b) Show horizontal curve information on a separate ***Coordinate and Curve Data Table*** . Include all horizontal curve information such as Northing/Easting information for the PC, PI, PT, and CC as well as design speed and superelevation of each curve within project limits.
**See sample: https://floridasturnpike.com/business-opportunities/design/roadway/* ☐ ☐

(c) Analyze turning movements and vehicle sweep path using AutoTurn: ☐ ☐
*(i). WB-109D Mainline and Ramps*
*(ii). WB-62FL for On/Off Ramp at side street intersections*
*(iii). Dual/Triple Lefts use Simultaneous WB-62. Any other combination requires concurrence from Traffic Operations and Traffic Planning.*

(d) AutoTurn exhibits show the guide striping where wheel path is entirely outside the guide striping. Provide spacing between vehicle sweeps paths and adjacent vehicles and/or edge stripes as required by FDM 212.12.1. ☐ ☐

(e) For situations where overtracking is unavoidable and the travel width required is excessive or not feasible, provide guide striping for the front two wheels. Avoid oversteering the front two wheels outside of the striped travel way. Accommodate any overtracking for rear tires/trailer sweep path using a paved apron and chevron striping as necessary. Use AASHTO 2.8.2 for guidance. ☐ ☐

(f) Provide adequate acceleration and deceleration length that meets AASHTO Table 10-4 & 10-6. ☐ ☐
*(i). Auxiliary lanes meet or exceed acceleration and deceleration length (1500' standard)*
*(ii). Exit ramp length meets or exceed 70 mph to stop distance measured from physical gore to the back of the queue.*
*(iii). Entrance ramp length meets or exceed 0 mph to 70 mph measured from end of radial return to the end of the physical gore.*

(g) Where single lane ramps intersect cross roads, additional ramp lanes are usually added for acceleration/deceleration of right and left turns. Unless these additional lanes are more than 500' long measured along the ramp baseline, single lane six-foot wide ramp shoulders may be used throughout. A similar 500' length would apply to ramp toll facility approaches and departures. Frequent, short changes in ramp width do not warrant corresponding short changes in ramp shoulder width. The shoulder transitions may be longer than the actual length of the multi-lane ramp segment. ☐ ☐

| Design Component | Complete | N/A |
|---|---|---|
| (h) Analyze sight lines using AutoTurn around curves. Displaying at least a 25' increment for the sight lines in design doc exhibits. | ☐ | ☐ |

**Justification for Deviations to Horizontal Geometry** ***(List for all items in Section I not completed)***

## II. Vertical Geometry

| | | |
|---|---|---|
| (a) For all 'New Construction' or 'Reconstruction' Projects, avoid shoulder rocking to the greatest extent possible. Provide 0.5% grades as discussed in FDM 211.9.1. | ☐ | ☐ |
| (b) Use AASHTO Table 3-3 "Maneuver B" Decision Sight Distance to allow for Stop on all off ramps approaching stop condition applied to 6" object height. *Note: The use of Maneuver A limited to rural free flow conditions.* | ☐ | ☐ |
| (c) Call out the Minimum Vertical Clearance over and under all bridges on all profiles. | ☐ | ☐ |
| (d) When profiles cross intersections, call out the centerline of the cross streets in profile. | ☐ | ☐ |

**Justification for Deviations to Vertical Geometry** ***(List for all items in Section II not completed)***

## III. Typical Section and/or Cross Section Elements

| | | |
|---|---|---|
| (a) For projects with 4 or more lanes in one direction, slope 2 lanes to median and 2 lanes to outside as shown in FDM Figure 211.2.1. For projects where this cannot be achieved, a meeting is required with Roadway and Drainage design to seek concurrence. | ☐ | ☐ |
| (b) The inside and outside shoulder widths may be reversed to provide additional sight distance on the inside of a curve as noted in AASHTO 10.9.6.3.2 however this condition requires an approved Formal Design Variation for shoulder width. **Note: The sum of the right and left shoulder widths must be greater than or equal to the sum of the standard FDM shoulder widths and in no instance will the shoulder width on the outside of the curve be less than 4'.* | ☐ | ☐ |
| (c) For resurfacing and spot or system wide safety improvement projects, existing guardrail sections that do not meet the current standards and are impacted by project improvements must be replaced or upgraded such that the entire run of guardrail meets current standards. | ☐ | ☐ |
| (d) Provide a fully enclosed fence for all pedestrian facilities (sidewalk or shared use paths) on bridges over Florida's Turnpike limited access right of way as shown in FDM Figure 222.4.8 Index 550-012. | ☐ | ☐ |

| Design Component | Complete | N/A |
|---|---|---|
| (e) For bridges that cannot provide a fully enclosed fence or for bridges that have a shoulder with expected bike traffic over Turnpike facilities use curved bridge fencing as shown in FDM Figure 222.4.7 Index 550-013<br>*Note: 550-011 not allowed without Turnpike Design Engineer approval* | ☐ | ☐ |
| (f) Label additional information to be shown on typical sections: clear zone, lane buffer widths, minimum vertical and horizontal clearances at crossing roads if within bridge limits, wider than standard shoulders, FGT specified width. | ☐ | ☐ |
| (g) Provide additional typical sections in the construction plans for: roadway work under bridges and any other pinch points, changes due to R/W constraints, changes to number of travel lanes. | ☐ | ☐ |

| **Justification for Deviations to Typical Section / XS Elements** ***(List for all items in Section III not completed)*** |
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## IV. Temporary Traffic Control

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|---|---|---|
| (a) Analyze the design vehicle sweep paths and sight lines using AutoTurn for turning movements during all phases of construction. Ensure minimum 2' from the end of crash cushions is provided as well as adequate line of sight is provided for all phases. | ☐ | ☐ |
| (b) Provide at least one traffic control officer for all lane closures and/or ramp closures. | ☐ | ☐ |
| (c) **Preliminary TTCP (45%) Submittal**: Submit Preliminary 45% TTCP and hold an MOT workshop prior to Ph II submittal. Preliminary TTCP must include the following Preliminary Design Elements listed below. Provide justification for items not complete. | ☐ | ☐ |
| *(i). Identify all deviations from Turnpike Lane Closure Policy by 45% TTCP Submittal and formal approval prior to Ph II Submittal.* | ☐ | ☐ |
| *(ii). Identify any lane closures less than 10 hrs (FDM 240.2.1.6) by 45% TTCP Submittal and approved by Central Office prior to Ph II submittal.*<br>**Note: Provide sufficient justification below why not completed for Ph III & Ph IV Submittals.* | ☐ | ☐ |
| *(iii). **Detour Routes** : Requires Local Agency coordination for all detour routes by 45% TTCP Workshop with formal approvals prior to Ph II Submittal.* | ☐ | ☐ |
| *(iv). Submit **Toll Detour Analysis Memo** with the 45% TTCP Submittal, including but not limited to: toll pricing analysis, detour length +/- MOT change, estimated time delay* | ☐ | ☐ |
| *(v). Turnpike Concessions approvals required for: service plaza ramp closures, impacts to access to and from the service plaza, and MOT within the service plaza. Identify any impacts to Turnpike Concessions by 45% TTCP and receive approvals prior to Ph II.* | ☐ | ☐ |
| *(vi). Proposed speed reductions for side streets and ramps required to be identified by 45% TTCP and approved prioir to Ph II.*<br>**Note: Mainline speed reductions for TTCP are not allowed without a Formal Design Variation.* | ☐ | ☐ |

| Design Component | Complete | N/A |
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| *(vii). **Emergency Shoulder Use (ESU)** : For the 45% TTCP Submittal provide a 10' wide outside shoulder for the NB Turnpike Mainline (SR 91) for ESU during ALL phases of construction as required by FDM CH 211.4.6, 215.4.6.6, and 240.2.1.* | ☐ | ☐ |
| (d) For nighttime lane closures show dimensions for daytime lane configuration (gray or dashed linework) in addition to the nighttime lane configuration on the TTCP Phased Typical Sections. For daytime lane configurations specifically label the NB Outside shoulder as **10' ESU Shoulder** on all TTCP typicals to ensure contractor provides 10' for ESU all phases. | ☐ | ☐ |
| (e) Provide 4' lateral offset for the travel lanes from all milling and paving operations. If providing a 4' lateral offset (i.e. shifting travel lanes 4' or closing an additional lane) is not possible, a meeting is required with Turnpike Roadway, Construction, and Traffic Operations to seek concurrence. | ☐ | ☐ |
| (f) Provide 12' travel lanes for all phases of construction where possible. When using 11' lanes as noted in Index 102-600 provide at least one 12' lane on the outside travel lane which excludes the auxiliary lanes.<br>**Note: Lane widths less than 12' for single lanes ramps not allowed* | ☐ | ☐ |
| (g) Include applicable standard notes in the Temporary Traffic Control Plans.<br>**Link**: *https://floridasturnpike.com/business-opportunities/design/roadway/* | ☐ | ☐ |
| (h) Long Term (continuous closure longer than one calendar day) diversions/lane shifts into an existing shoulder require the removal of the rumble strips and existing FC-5 lip such that the entire striped lane is one plane. If shifting traffic into existing rumble strips and FC-5 lip cannot be avoided use W8-11, R4-1, and MOT-1-06 signs to supplement. | ☐ | ☐ |
| (i) For all mainline detours that will affect access to and from a service plaza provide necessary signage within the service plazas. | ☐ | ☐ |
| (j) For all diversions in sections where the existing at NC and Design Speed is 55mph or greater use FDM 210.9.1 radius curves. | ☐ | ☐ |

| **Justification for Deviation to TTCP** ***(List for all items in Section IV not completed)*** |
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## V. Maintenance

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|---|---|---|
| (a) For cut slopes provide 5' from face of guardrail to the toe of the 1:2 slope. | ☐ | ☐ |
| (b) For concrete barrier wall provide a 4' wide level bench within the fill behind the barrier before proceeding with a 1:2 slope | ☐ | ☐ |
| (c) New permanent slopes steeper than 1:2 are not allowed. FDM 215.2.6 requires Turnpike Geotech Engineer and Turnpike Maintenance Engineer concurrence. | ☐ | ☐ |
| (d) Sod all slopes adjacent to new construction or widening throughout entire limits of project. | ☐ | ☐ |

| Design Component | Complete | N/A |
|---|---|---|

**Justification for Deviation to Maintenance** ***(List for all items in Section V not completed)***

## VI. General

(a) Submit Roadway Design Documentation with each phase submittal. See sample format on website:
**Link:** *https://floridasturnpike.com/business-opportunities/design/roadway/* ☐ ☐

(b) All Turnpike facilities must have a design speed of 70 mph, with the following exceptions: ☐ ☐
*(i).* ***Turnpike (SR 821)*** *from Milepost 0 to Milepost 27.5 use DS=65 mph*
*(ii).* ***Veteran's Expressway (SR 589)*** *from Milepost 1.54 to Milepost 13.57 use DS=60 mph*
*(iii).* ***Polk Parkway (SR 570)*** *from Milepost 0 to Milepost 12.7 use DS=65 mph*
*Note: DS=65 mph for Polk Parkway will still require DV/DE for all individual elements not meeting 70 mph. Veteran's and Turnpike Mainline for the MP listed above can be considered as Urbanized.*

(c) Submit KMZ files for each phase submittal and follow guidelines on website: ☐ ☐
**Link:** *https://floridasturnpike.com/business-opportunities/design/roadway/*

(d) Common Roadway Deficiencies on Turnpike projects: ☐ ☐
*(i). Provide ramp connection spacing as required by FDM Figure 211.12.1.*
*(ii). Use FDM Table 211.10.1 and use downgrade factors as applicable for stopping sight distance.*
*(iii). Provide 10' shoulder on outside shoulder when barrier wall is present on both sides as required by FDM 215.4.6.6 for disabled vehicles and emergency management use.*
*(iv). Use Type B Fence along limited access ROW within interchange limits for all Turnpike facilities.*

**Justification for General Deviations** ***(List for all items in Section VI not completed)***

**I certify that I have thoroughly read through the checklist and confirm the information presented is accurate to the best of my knowledge.**

**Engineer of Record** **Project Quality Manager**