

# **C.R. 581 (BELLAMY BROTHERS BOULEVARD) FROM S.R. 52 TO HERNANDO COUNTY LINE RSA RECOMMENDATIONS**

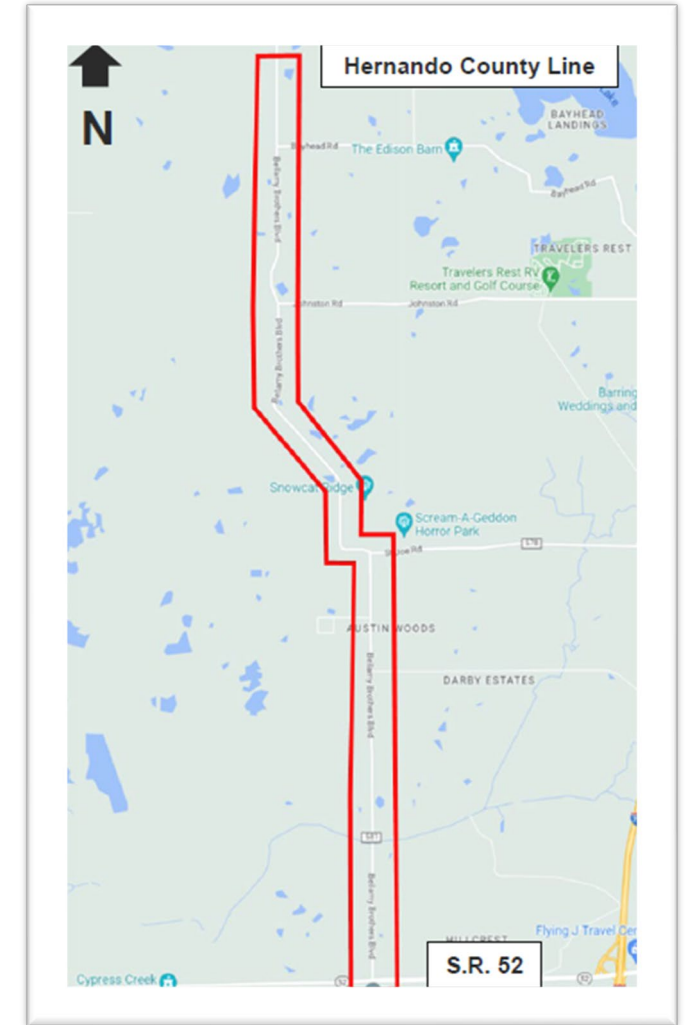
Anthony Chaumont, PE, RSP1 - JMT  
March 25, 2026

# SEGMENT CHARACTERISTICS

## Bellamy Brothers Boulevard from S.R. 52 to Hernando County Line

|                        |                              |
|------------------------|------------------------------|
| Number of Lanes        | 2 lanes                      |
| Lane Width             | 11-foot                      |
| Posted Speed Limit     | 45 mph                       |
| AADT                   | 4,400 vpd                    |
| Lighting               | Infrequent along the segment |
| Land Use               | Agricultural and Residential |
| Shoulders              | No existing paved shoulders  |
| Sidewalk               | No designated sidewalk       |
| Context Classification | C2-Rural                     |

**These characteristics reflect conditions observed February 2024**



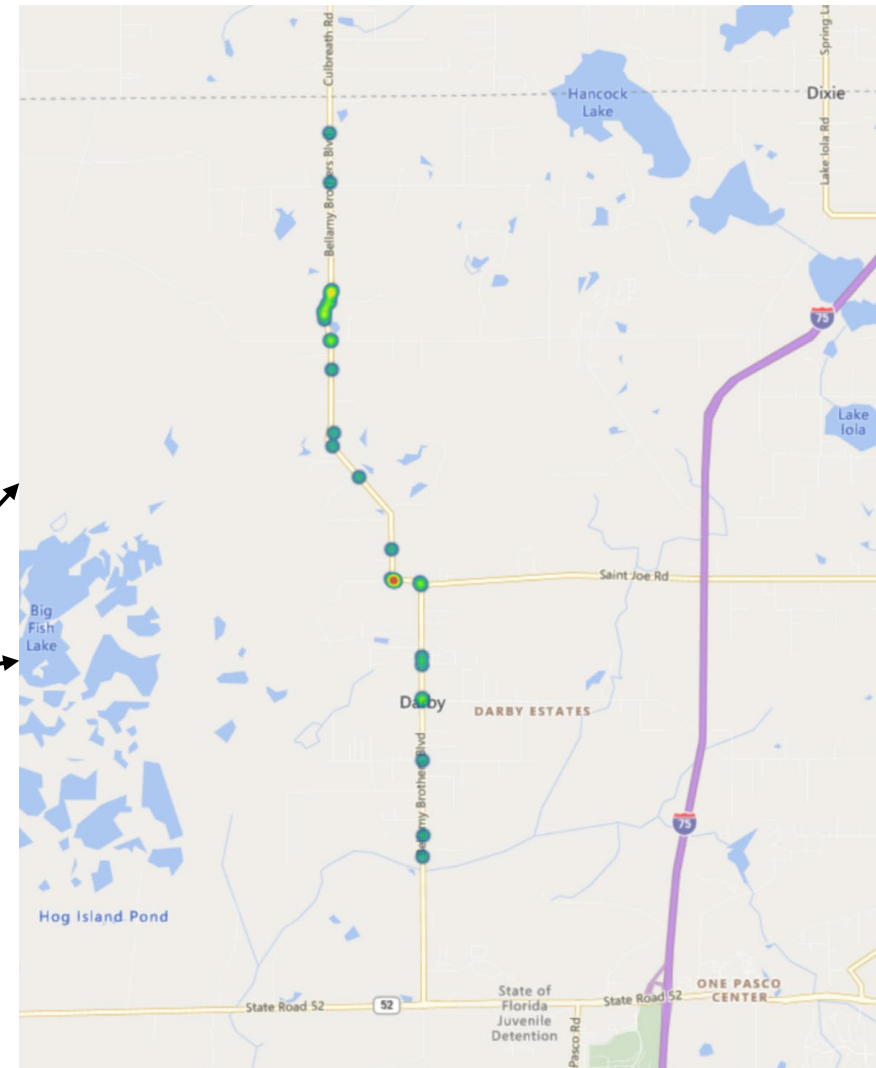
# CRASHES

| COLLISION TYPE       | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | TOTAL (%) |
|----------------------|------|------|------|------|------|------|-----------|
| Angle                | -    | 1    | 1    | -    | 3    | 1    | 6 (3%)    |
| Animal               | 1    | 1    | 3    | -    | 1    | -    | 6 (3%)    |
| Left Turn            | 1    | 1    | 1    | 3    | -    | 4    | 10 (5%)   |
| Bicycle              | -    | -    | -    | -    | -    | 2    | 2 (1%)    |
| Rear End             | 3    | 7    | 4    | 10   | 13   | 10   | 47 (22%)  |
| Head On              | 1    | -    | -    | 3    | 1    | 3    | 8 (4%)    |
| Sideswipe            | 2    | 2    | 2    | 5    | 8    | 8    | 27 (12%)  |
| Hit Non-Fixed Object | 1    | -    | -    | -    | -    | 1    | 2 (1%)    |
| Rollover             | 6    | 3    | 3    | 5    | 3    | 4    | 24 (11%)  |
| Run-Off-Road         | 19   | 14   | 6    | 15   | 9    | 22   | 85 (39%)  |
| Total                | 34   | 29   | 20   | 41   | 38   | 55   | 217       |

|                    |    |    |    |    |    |    |           |
|--------------------|----|----|----|----|----|----|-----------|
| Fatal              | 2  | -  | -  | 1  | 1  | 3  | 7 (3%)    |
| Incapacitating     | 6  | 2  | 1  | 6  | 5  | 7  | 27 (12%)  |
| Non-incapacitating | 1  | 2  | 2  | 4  | 2  | 7  | 18 (8%)   |
| Possible Injury    | 4  | 8  | 3  | 4  | 8  | 11 | 38 (18%)  |
| No Injury          | 21 | 17 | 14 | 26 | 22 | 27 | 127 (59%) |

|       |    |    |    |    |    |    |           |
|-------|----|----|----|----|----|----|-----------|
| Day   | 18 | 16 | 16 | 20 | 26 | 34 | 130 (60%) |
| Night | 16 | 13 | 4  | 21 | 12 | 21 | 87 (40%)  |

|     |    |    |    |    |    |    |           |
|-----|----|----|----|----|----|----|-----------|
| Wet | 8  | 3  | 1  | 9  | 8  | 12 | 41 (19%)  |
| Dry | 26 | 26 | 19 | 32 | 30 | 43 | 176 (81%) |



# SHORT-TERM RECOMMENDATIONS

# INTERSECTION WARNING SIGNAGE

Miller Road, Darby Road, St. Joe Road, Bent Fork Road, Johnston Road, Bayhead Road

|                  |  |
|------------------|--|
| Observation      | Vehicles traveling EB and WB cause safety concerns at intersections for NB and SB movement |
| Recommendation   | Add intersection warning signs at intersections where fatal/severe crashes occurred        |
| Improvement Type | Safety/Signing   |

| <i>Action Taken</i>  | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|--|-----------------------|---------------------------------|
| Intersection warning signs were added for Darby Road and Bayhead Road near: (+28.359023°, -82.358096°), (+28.362346°, -82.358174°), (+28.422230°, -82.370719°), (+28.425360°, -82.370818°) | May – June 2023       |                                 |



# TRUCK SIGNAGE

| Corridor Wide    |  |
|------------------|--|
| Observation      | Trucks traveling NB and SB were observed to cause opposing vehicles to travel on the outside of the travel lane due to the width of the trucks |
| Recommendation   | Add signs restricting truck access (temporary solution)  |
| Improvement Type | Safety/Signing   |

| Action Taken | Date of Action | Implementation Mechanism |
|--------------|----------------|--------------------------|
|              |                |                          |



# NO SHOULDER WARNING SIGN

## Corridor Wide

|                  |   |
|------------------|---|
| Observation      | Vehicles traveling NB and SB were observed to travel off-road while attempting to travel along the curves where there was no paved shoulder |
| Recommendation   | Add a no shoulder warning sign at the beginning of the curves in the NB and SB directions (temporary solution)                              |
| Improvement Type | Safety/Signing  |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |



# REFLECTIVE WARNING SIGNAGE

| Corridor Wide    |   |
|------------------|---|
| Observation      | Posted sign assemblies were observed to not include reflective strips |
| Recommendation   | Add reflective strips to all posted signs                             |
| Improvement Type | Safety/Signing  |

| <i>Action Taken</i>                                | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|--|-----------------------|---------------------------------|
| Reflective post strips were added by Pasco County. | May – June 2023       |                                 |



# POSITIVE GUIDANCE SIGNAGE

| Corridor Wide    |  |
|------------------|--|
| Observation      | Corridor lacked signage guiding drivers  |
| Recommendation   | Add positive guidance signage along the corridor to inform drivers of upcoming conditions including, but not limited to, hidden driveway signs, advance street name signs, intersection ahead signs, curve ahead signs, advisory speed limit signs |
| Improvement Type | Safety/Signing   |

| Action Taken   | Date of Action  | Implementation Mechanism |
|--|-----------------|--------------------------|
| Additional curve and intersection warning signs were added by Pasco County near: (+28.392427°, -82.371139°), (+28.403421°, -82.370520°), (+28.404616°, -82.370496°), (+28.407227°, -82.371492°), (+28.412665°, -82.370701°), (+28.407517°, -82.371580°), (+28.406905°, -82.371482°), (+28.406702°, -82.371439°), (+28.406477°, -82.371324°), (+28.406454°, -82.371393°), (+28.393295°, -82.371179°), (+28.392974°, -82.371209°), (+28.392643°, -82.371122°), (+28.392364°, -82.371006°), (+28.385653°, -82.364163°), (+28.377337°, -82.362247°), (+28.326679°, -82.357958°), (+28.359023°, -82.358096°), (+28.362346°, -82.358174°), (+28.422230°, -82.370719°) (+28.425360°, -82.370818°) | May – June 2023 |                          |



# RAISED PAVEMENT MARKERS (RPMs) ON EDGELINES

| Various Curves   |   |
|------------------|---|
| Observation      | Curves do not provide RPMs along the edgeline                             |
| Recommendation   | Add RPMs along the edgelines of the curves where fatalities have occurred |
| Improvement Type | Roadway/Safety  |

| <i>Action Taken</i>  | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|--|-----------------------|---------------------------------|
| Temporary tape and RPMs are being investigated for short-term improvement. | February 2024         |                                 |



# RAISED PAVEMENT MARKERS (RPMs)

| Corridor Wide    |   |
|------------------|---|
| Observation      | RPMs along the centerline have been removed due to vehicles driving over them   |
| Recommendation   | Install new RPMs at a 10-foot center-to-center spacing along the centerline and edgeline striping between the PT and PC of each curve, and at a 40-foot spacing in the tangent sections |
| Improvement Type | Roadway/Safety  |

| <i>Action Taken</i>  | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|--|-----------------------|---------------------------------|
| Temporary tape and RPMs are being investigated for short-term improvement. | February 2024         |                                 |



# MID-TERM RECOMMENDATIONS

# REPOSITION CHEVRON SIGNS

## Along Curves

|                  |   |
|------------------|---|
| Observation      | Existing chevrons signs were observed to not cover full length of the curve from start to end   |
| Recommendation   | Reposition existing chevron signs and add additional signs if needed to start and end through the full curve with evenly spaced signs |
| Improvement Type | Safety/Signing  |

| <i>Action Taken</i>   | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---|-----------------------|---------------------------------|
| Chevron signs were added and repositioned along the curves by Pasco County. | May – June 2023       |                                 |



# CURVE WARNING AND CHEVRON SIGNAGE

| Corridor Wide    |   |
|------------------|---|
| Observation      | Multiple curves were observed to be without curve warning and chevron signs |
| Recommendation   | Add curve warning and chevron signs at the missing curves along the segment |
| Improvement Type | Safety/Signing  |

| Action Taken  | Date of Action  | Implementation Mechanism |
|---|-----------------|--------------------------|
| Additional curve warning signs and chevrons were added by Pasco County near: (+28.392427°, -82.371139°), (+28.403421°, -82.370520°), (+28.404616°, -82.370496°), (+28.407227°, -82.371492°), (+28.412665°, -82.370701°), (+28.407517°, -82.371580°), (+28.406905°, -82.371482°), (+28.406702°, -82.371439°), (+28.406477°, -82.371324°), (+28.406454°, -82.371393°), (+28.393295°, -82.371179°), (+28.392974°, -82.371209°), (+28.392643°, -82.371122°), (+28.392364°, -82.371006°), (+28.385653°, -82.364163°), (+28.377337°, -82.362247°), (+28.326679°, -82.357958°), (+28.359023°, -82.358096°), (+28.362346°, -82.358174°), (+28.422230°, -82.370719°), (+28.425360°, -82.370818°) | May – June 2023 |                          |



# CHEVRON SIGN GEOMETRY

| Corridor Wide    |  |
|------------------|--|
| Observation      | Existing chevron signs were observed to differ from the geometry of the curve; the chevrons were turned or not facing down the direction of the curve  |
| Recommendation   | Conduct a full review of the existing chevron signs to confirm they complement the geometry of the curve, and provide an educational opportunity for the signage installers on how to properly angle the chevron signs |
| Improvement Type | Safety/Signing   |

| <i>Action Taken</i>   | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---|-----------------------|---------------------------------|
| Chevron signs were added and repositioned along the curves by Pasco County. | May – June 2023       |                                 |



# CHEVRON SIGN SIZE

| Corridor Wide    |   |
|------------------|---|
| Observation      | Existing chevron signs size were observed not to be up to standard  |
| Recommendation   | Conduct a full review of the existing chevron signs to confirm the size of the signs are up to standard per MUTCD 2C.04 |
| Improvement Type | Safety/Signing  |

| <i>Action Taken</i>  | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|--|-----------------------|---------------------------------|
| Chevron signs along the curves were measured and sizes were confirmed by Pasco County. | May – June 2023       |                                 |



# DYNAMIC LED CURVE SIGNAGE

| Corridor Wide    |  |
|------------------|--|
| Observation      | Curves with fatal/severe injury crash history were observed to have chevron signs without dynamic LED curve signage system |
| Recommendation   | Replace the existing chevron signs with a dynamic LED curve signage system.  |
| Improvement Type | Safety/Signing   |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |

St. Joe Road curve has LED chevrons  
 Bent Fork Road curve has leading LED chevrons  
 Johnston Road curves do not have any LED curve signage (already existing at time of study; installed 2019)



# REFLECTIVE MATERIAL

## Curve near Snowcat Ridge

|                  |   |
|------------------|---|
| Observation      | Existing utility pole was observed to be without reflectivity |
| Recommendation   | Add an object marker and reflective material to the pole      |
| Improvement Type | Safety/Signing  |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |



# NO PASSING

| Corridor Wide    |  |
|------------------|--|
| Observation      | Vehicles were observed passing one another while having their view obstructing from oncoming traffic from other directions |
| Recommendation   | Conduct a no passing zone study and add double yellow lines  |
| Improvement Type | Roadway/Safety   |

| <i>Action Taken</i>                                     | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---|-----------------------|---------------------------------|
| The study is currently being conducted by Pasco County. | February 2024         |                                 |



# CURVE AHEAD STUDY

| Corridor Wide    |   |
|------------------|---|
| Observation      | The segment was observed to lack pavement messages warning drivers of oncoming curves |
| Recommendation   | Conduct a curve ahead pavement message study  |
| Improvement Type | Roadway/Safety  |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |



# RESTRIPING

| Corridor Wide    |  |
|------------------|--|
| Observation      | The pavement striping condition was observed to be in poor condition; this could be a contributing factor in the high number of run-off-road crashes |
| Recommendation   | Restripe the pavement along the centerline and edgelines along the corridor  |
| Improvement Type | Roadway/Safety   |

| Action Taken   | Date of Action | Implementation Mechanism |
|--|----------------|--------------------------|
| Temporary tape and RPMs are being investigated for short-term improvement. | February 2024  |                          |



# LONG-TERM RECOMMENDATIONS

# HIGH FRICTION SURFACE TREATMENT

| Corridor Wide    |   |
|------------------|---|
| Observation      | The pavement condition was observed to be in poor condition                                 |
| Recommendation   | Install a high friction surface treatment along the radius of each curve along the corridor |
| Improvement Type | Roadway/Safety  |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |



# PAVEMENT DETERIORATION

| Corridor Wide    |   |
|------------------|---|
| Observation      | The shoulder along the corridor was observed to be deteriorating causing vehicles to cut into the yellow median lines to avoid the dips |
| Recommendation   | Widen the pavement, add a safety edge, and add centerline rumble strips   |
| Improvement Type | Roadway/Safety  |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |



# LIGHTING

## Bayhead Road, Johnston Road, Henlon Terrace

|                  |  |
|------------------|--|
| Observation      | Lighting was not present in several areas of the segment   |
| Recommendation   | Coordinate with the utility company to install luminaires along segments with existing utility poles |
| Improvement Type | Safety   |

| <i>Action Taken</i> | <i>Date of Action</i> | <i>Implementation Mechanism</i> |
|---------------------|-----------------------|---------------------------------|
|                     |                       |                                 |



# ADDITIONAL COUNTERMEASURES BY COUNTY

- Restriped the centerline from Hernando County Line to Johnston Road
- Installed an additional speed limit sign between S.R. 52 and Darby Road





**DNT TXT + DRV**



**Thank You!  
Questions?**