

## Keith's Southport Connector Traffic Recommendation

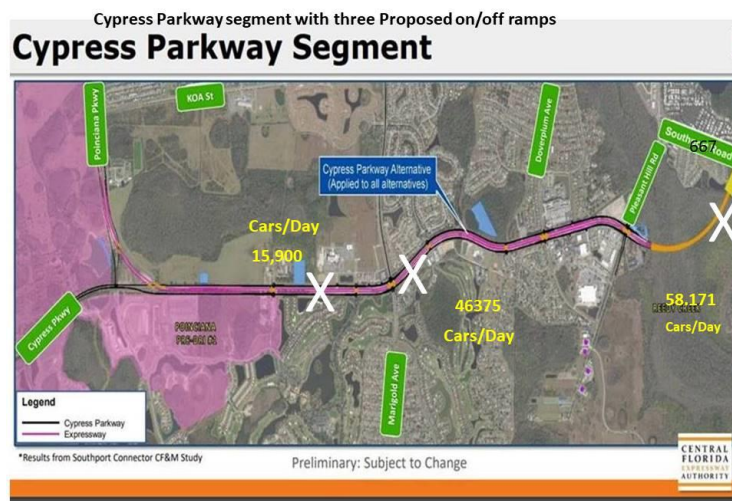


This analysis is meant to offer a proposal for the location of on/off slip ramps for the Cypress Parkway section of the Southport Connector and an elementary traffic projection based on the current numbers provided by both Polk and Osceola Counties.

Based on my calculations presented here it appears that the construction of the Southport Connector Cypress Parkway segment not only offers the potential for significant improvements to the local traffic situation but also by adding the additional uninterrupted flow lanes through the center of Poinciana on the Cypress Parkway segment offers the only possible solution to the Poinciana local traffic problems.

In order to determine the possible impact I looked at the currently available traffic counts from the two counties and using that information tried to come up with suggestions as to location for the on/off ramps for the Cypress Parkway section of the project.

The picture below shows the existing Cypress Parkway segment and the traffic counts associated with each major intersection.



There are three major east/west segments that have traffic count information published by the counties. Going from West to East there is the [Solivita segment](#) running between Poinciana Parkway and the Marigold Intersection. Today that segment according to Polk County has a daily traffic volumes of 15,900 vehicles. There is what I call the [Marigold Segment](#) running between Marigold Avenue and Doverplum. According to Osceola County that segment has a count of 46,375. Then there is what I call the [Doverplum segment](#) running between Doverplum and Pleasant Hill which according to Osceola County has a daily count of 58171 daily vehicles.

My proposal suggests placing local traffic on/off slip ramps for the Southport Connector Cypress Parkway segment at each of these three sections.

### Solivita Segment



I suggest placing the on/off slip ramps for the Solivita Segment between the Laurel Avenue and Solivita Blvd overpasses. That way Cypress Parkway local traffic coming from Haines City, Solivita West Gate, and the Solivita Poinciana Parkway Gate can get onto the express lanes before the Solivita Blvd intersection. Traffic exiting Solivita from the Solivita main gate can optionally make a left turn after going under the expressway and then a U turn under the Laurel overpass to get onto the express lanes. Once on the express lanes from this location traffic could fly over Solivita Blvd, Marigold, Cypress Branch, Country Club and Doverplum intersections to get to either Pleasant Hill or east to the turnpike. This would allow this traffic to skip over 4 traffic light intersections and the on/off traffic from Country Club to go through Poinciana. Other options for Solivita drivers would be to turn right at the Solivita Blvd exit or use the Marigold gates to enter on the Marigold segment.

### Marigold Segment

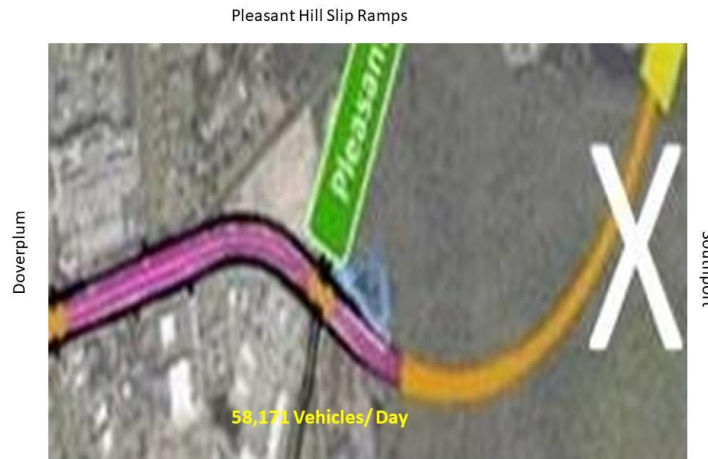


My next recommendation for location of on/off slip ramp is between the Marigold Ave intersection and Cypress Branch intersection. The Marigold intersection today is one of the busiest intersections in Poinciana. Traffic coming from Cypress Parkway west, Marigold north and Marigold South all enters the Marigold segment at this intersection. By

placing the on/off slip ramps at this location a percentage of this traffic can choose to enter the express toll lanes thus flying over the Cypress Branch, Country Club and Doverplum intersections to get to either Pleasant Hill or east to Florida Turnpike.

From a toll standpoint if separate gantries could be provided for the Solivita segment and Marigold segment a possible toll would be \$.20 for the Solivita segment and \$.50 for the Marigold segment. If only one gantry can be provided then the toll might be \$.70. The drawback with a \$.70 toll for driving the Marigold segment is it might cause a lower percentage of drivers to use the toll lanes.

### **Doverplum Segment**



For the segment between Doverplum Intersection and Pleasant Hill the only recommended on/off ramps are located at Pleasant Hill/Southport end of the segment. Rather than locate the ramps before Reedy Creek my recommendation is that they be located on the east side of the newly constructed Reedy Creek Bridge allowing the eastbound traffic to exit onto an improved SouthPort entering either Pleasant Hill or Poinciana Blvd at the existing intersection. Pleasant Hill traffic could enter Pleasant Hill from the right lane while Poinciana Blvd traffic could go straight through the intersection. By spitting the expressway traffic away from the local lane traffic it will lessen the existing local traffic bottleneck at the Pleasant Hill Reedy Creek Bridge. The existing left turn queue to turn from Pleasant Hill north onto Poinciana Blvd will be reduced by having the expressway portion of that traffic now flowing through the existing intersection.

By placing the on/off slip ramps at the recommended locations the Southport Connector project provides the opportunity to significantly improve the Poinciana local traffic congestion problem by taking traffic volumes off from the local roads and onto the newly constructed expressway lanes. People have voiced opposition to the Southport Connector project because of concerns about what the construction of the expressway on the Cypress Parkway section will do to the already terrible Poinciana traffic congestion. In looking at the potential traffic implications of building the Cypress Parkway portion of the project with the on/off slip ramps at the suggested locations the construction of the project will actually improve the local traffic congestion considerably.

Let's look at the traffic volume implications for the three segments described.

### **Solivita Segment traffic**

The latest numbers provided by Polk County show a traffic count for the Solivita section to be 15,900 cars per day. By placing the on/off slip ramps between the Laurel overpass and the Solivita Blvd overpass traffic from the west direction heading for Pleasant Hill/Poinciana Blvd or Florida Turnpike can get onto the express lanes and fly over the Solivita Blvd, Marigold, Cypress Branch and Doverplum intersections and in addition miss the on/off traffic entering from Country Club at Vance Harmon park. Traffic from Turnpike or Pleasant Hill/Poinciana Blvd can enter the express lanes and fly over the same intersections when heading west. Without a crystal ball to tell the future it is difficult to exactly predict the impact of adding this new capability but by calculating traffic impact by percentages of 20%,40 %or 60% of the local traffic opting to use the Solivita express lanes we can calculate the improvements.

### **Marigold Segment Traffic**

The Marigold Segment between the intersection of Marigold and Doverplum on Cypress Parkway represents the highest local traffic volumes on Cypress Parkway segment. You have high traffic counts coming from CR580 to the west, Marigold to the north and Marigold to the south all trying to get onto Cypress Parkway heading toward Doverplum. There is also a lot on new construction taking place north of Solivita west of the Poinciana Parkway and on Polk CR580 causing these traffic volumes to increase. If at all possible it is recommended that on/off slip ramps be located between the Marigold Intersection and Cypress Branch overpass. This would allow eastbound or westbound traffic using the express lanes to avoid the intersections at Cypress Branch and Doverplum plus the on/off traffic at Country Club by Vance Harmon Park. There is a lot of traffic flowing through both the Cypress Branch intersection and coming from Country Club but not nearly as much as coming from the Marigold intersection. By allowing the Marigold intersection traffic to avoid the Cypress Branch intersection you will make the expressway tolls much more attractive to a higher volume of traffic that you would pick up by moving the on/off slip ramps farther east from Cypress Branch. Again without the crystal ball you can calculate the traffic impact of various percentages of Marigold Segment traffic choosing to use the toll expressway lanes as opposed to the local lanes.

### **Doverplum Segment Traffic**

The worst intersection in Poinciana is the intersection of Doverplum and Cypress Parkway. During rush hour traffic can be forced to wait as many as two or three red light cycles to get thru the intersection. Then once all that traffic gets through the intersection it all must cross the existing Reedy Creek Bridge to get to Pleasant Hill or Poinciana Blvd. The situation is reversed for westbound traffic. The addition of the express toll lanes will improve the local traffic backups at the Doverplum intersection by reducing the east/west Cypress Parkway local thru traffic depending on the percentage vehicles opting to use the toll lanes as opposed to the local lanes. The bottleneck slowdowns at the Reedy Creek bridge for local traffic can be improved even more by installing the on/off slip ramps for the Doverplum traffic on the east end of the new Reedy Creek Southport Connector bridge rather than on the west side of the bridge. Today the total traffic crossing the Reedy Creek Bridge at that chokepoint is 58,171 vehicles per day. By locating the on/off slip ramps on the east side of the expressway bridge whatever expressway traffic wanting to use Pleasant Hill/Poinciana Blvd will no longer have to share the old Reedy Creek Bridge with all the local traffic but instead be able to exit and use Southport to get to the Pleasant Hill intersection. At the Pleasant Hill Intersection traffic wanting to continue on Pleasant Hill can make a right hand turn while Poinciana Blvd traffic can simply go through the intersection. This positioning of the expressway on/off slip ramps will significantly improve the Poinciana local traffic situation.

### **Summary of Poinciana Local Traffic Improvements from Building Southport Connector**

The traffic calculations for the three zones of the Cypress Parkway segment show that with the construction of the Southport Connector project the Poinciana drivers can decide for themselves the benefits that the added expressway toll lanes can provide to relieve the Poinciana local traffic situation. The addition of the on/off slip ramps at the locations suggested provide the Poinciana drivers the ability to take advantage of the additional traffic capacity added by the project or not depending on whether or not they choose to pay the price.

Depending on the percentage of vehicles who choose to use the expressway lanes instead of the local traffic lanes (between 20% and 60%) the number of east/west cars each day at the Marigold intersection can be reduced from 15,600 to between 12,720 and 6,360. The east/west traffic crossing the Doverplum intersection can be reduced from 46,375 to between 37,100 and 18,550. The Pleasant Hill Reedy Creek Bridge bottleneck can be reduced from 58,171 to between 45,716 and 20,806.

Two factors will impact whether or not Poinciana local traffic opts to use the express lanes on the Cypress Parkway Segment as opposed to the local lanes. Ease of getting on and off can be addressed by the locations for the on/off slip ramps. The second factor will be the toll expense to use the lanes. Assuming the current CFX rate of \$.14 per mile it should cost approx \$.70 per two axle vehicle to use the toll lanes the full length of the Cypress Parkway segment ( 5 miles). That would assume a single toll gantry located on the Doverplum segment. If separate toll Gantrys could be installed one for the Solivita segment and one for the Doverplum Segment then the cars using the full Cypress Parkway segment would be charged the full \$.70 per trip and the cars using the Doverplum segment only would only be charged \$.50 to avoid the Poinciana local traffic congestion to get from the Marigold intersection to Pleasant Hill. The cost for adding the second toll gantry would more than be covered by the additional traffic opting to get onto the express lanes on the Marigold segment because of the lower toll. Assuming 50% of the cars using the Marigold segment willing to pay \$.50 each way to avoid the Poinciana Doverplum congestion would generate an extra \$10,000 per day in toll revenue for CFX and at the same time significantly reduce the Poinciana local traffic congestion.

Based on my calculations which I have presented here it appears that the construction of the Southport Connector Cypress Parkway segment not only offers the potential for significant improvements to the local traffic situation but also by adding the additional uninterrupted flow lanes through the center of Poinciana on the Cypress Parkway segment offers the only possible solution to the Poinciana local traffic problems.

With projected Cypress Parkway expressway toll volumes ranging between 11,209 and 33,628 vehicles per day the revenue projection for the Southport Connector business case would be significantly enhanced depending on how attractive the tolls and slip ramp locations can make using the expressway for Poinciana local traffic which would be in addition to the Turnpike connection traffic.

Feedback on my proposal is most welcome?