Edgewater Drive Before & After Re-Striping Results

Prepared by

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INTRODUCTION

Edgewater Drive is a north-south roadway that carries approximately 20,000 Average Daily Trips per day. The roadway serves as College Park's Main Street while accommodating some through traffic. The limit of this evaluation is from Par Street to Lakeview Street in College Park.

Neighborhood Horizon Plan

In 1999 over forty College Park neighborhood volunteers participated in workshops with the City of Orlando to formulate an official plan for the neighborhood. The plan is intended to be used as a "blueprint" for planning future neighborhood improvement projects. The plan is College Park's "Neighborhood Horizon Plan" which was approved by The College Park Neighborhood Association (CPNA) and accepted by the Orlando City Council in January 2000.

The Horizon Plan identified 74 major tasks, which the volunteers would like to see implemented to improve the neighborhood. Many of the 74 tasks related to Edgewater Drive. One of the tasks was to transfer jurisdiction and maintenance of Edgewater Drive from Princeton St. to Par St. from the Florida Department of Transportation (FDOT) to the City of Orlando. The City already had jurisdiction of Edgewater Drive from Colonial Drive to Princeton Street. The transfer of jurisdiction to the City was viewed as important by the neighborhood because then the City could better implement improvement to the Edgewater Drive corridor as defined in the Neighborhood Horizon Plan without having to coordinate with FDOT. The Horizon Plan identified improvements such as new enhanced crosswalks with pavers at various points of crossing, underground utilities, and potential for new traffic lights, safer parking, bicycle lanes and wider sidewalks. The Horizon Plan Vision was to reinvent Edgewater Drive into a vibrant, pedestrian-friendly commercial district with cafés and shops.

Re-Striping Project History

The previous 4-lane configuration of Edgewater Drive did not provide sufficient room for wider sidewalks, bicycle lanes, streetscape and other Horizon Plan tasks. The Horizon Plan identified that the only way to eventually have wider more walkable sidewalks and a more pedestrian friendly commercial district was to eliminate one vehicle lane. The FDOT had budgeted for Edgewater Drive to be resurfaced in 2001/02. CPNA formally requested the City pursue looking at re-striping of Edgewater Drive from 4-lanes to 3 while it was being resurfaced. This change would immediately allow for wider parallel parking and bike lanes along Edgewater Drive. The concept had been successfully implemented in other cities with positive results including less speeding, reduced crash rates and increased bicycle and pedestrian activity. City Staff examined the possibility of re-striping to three lanes and presented the results at two advertised public meetings on April 11 and June 20 of 2001 with a combined attendance of over 100 people. The public meetings encouraged community input and neighbors brought issues for the City to study further, but overall the consensus at the meetings was that the public liked the 3-lane concept. As a result of the public meetings, the City agreed to examine several Measures of Effectiveness in the Before & After Conditions. They are the basis for much of the Before and After Evaluation.

BEFORE & AFTER EVALUATION

A series of Before and After Evaluations were conducted in order to assess the project's impact. Evaluations were completed in addition to the Measures of Effectiveness that were established at the beginning of the study. A summary of the Before and After Evaluations and Results is as follows:

Crash & Injury Data

In order to assess the project's impact on safety, crash and injury rates were calculated for the overall corridor. Crash reports for the last three complete years of 1999 through 2001 were reviewed and average crash and injury rates and frequencies were calculated. The after evaluation consisted of reviewing the available four complete months of crash data in order to determine the crash and injury rates and frequencies. The Crash and Injury rates were calculated based on the number of million vehicle miles of travel on the corridor. A summary showing the significant reduction in crashes and injuries is shown in the following Tables.

Crash & Injury Rate Comparison

Statistic	Before[1]	After[2]	% Change
Crash Rate (per MVM)[3]	12.6	8.4	-34%
Injury Rate (per MVM)	3.6	1.2	-68%

Notes:

1. *Before represents an average of Years 1999, 2000 & 2001*
2. *After represents four months (annualized)*
3. *MVM = Million Vehicle Miles*

Frequency of Crashes & Injuries

Statistic	Before[1]	After[2]
Crash Occurring Every _ Days	2.5	4.2
Injury Occurring Every _ Days	8.9	30.4

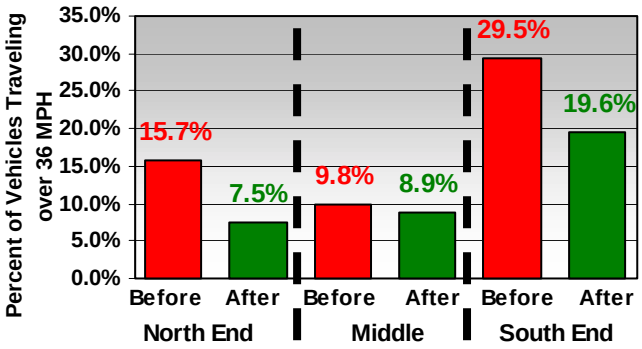
Notes:

1. *Before represents an average of Years 1999, 2000 & 2001*
2. *After represents four months (annualized)*

Speeding Analysis

Traffic Counts measuring the speed of vehicles was collected at three locations along the corridor in the before and after conditions. All traffic counts were collected during typical Fall weekdays (excluding Monday & Friday). The locations represent the northern end, middle section and the southern end speeds. The percentage of vehicles traveling at excessive speeds (Over 36 MPH) showed a reduction in all three segments. However, the northern and southern segments show the greatest reductions.

Edgewater Dr - Speeding Analysis



Keeping vehicle speeds low is critical to pedestrian safety because the chance of a pedestrian surviving a crash decreases sharply as a vehicle's speed increases. A study by the United Kingdom Department of Transportation showed that a pedestrian has an 85% chance of survival if struck by a vehicle traveling at 20 MPH. The study also showed that the chance of pedestrian survival drops to 15% when the vehicle is traveling at 40 MPH.

Edgewater Drive Traffic Volumes

Machine Traffic Counts measuring the volume of traffic on Edgewater Drive was conducted at eleven locations. Nine of the locations are between Lakeview St. and Par St. A summary of the Daily Traffic Volumes at the locations is shown in the following Table.

The After Daily Traffic Counts showed an average reduction of 12% in the study area between Par St. and Lakeview St.

Edgewater Drive - Daily Traffic Volume Comparison

Location	Before	After	Change	% Change
Edgewater Dr N/of Par St	27,684	25,126	-2,558	-9%
Edgewater Dr N/of Preston St	21,034	21,326	292	1%
Edgewater Dr S/of Preston St	23,440	20,836	-2,604	-11%
Edgewater Dr N/of Clayton St	19,342	15,890	-3,452	-18%
Edgewater Dr N/of Winter Park St	22,488	19,651	-2,837	-13%
Edgewater Dr N/of Smith St	22,761	20,515	-2,246	-10%
Edgewater Dr S/of Stetson St	18,681	15,997	-2,684	-14%
Edgewater Dr S/of Shady Lane Dr	18,811	15,898	-2,913	-15%
Edgewater Dr S/of Oak St	18,384	16,135	-2,249	-12%
Edgewater Dr N/of Lake Adair Bv	19,566	16,930	-2,636	-13%
Average (Par St. to Lakeview St)	**20,501**	**18,131**	**-2,370**	**-12%**
Edgewater Dr S/of Lakeview St	8,119	7,156	-963	-12%

Parallel & Sidestreet Traffic Volumes

Machine Traffic Counts measuring the volume of traffic on neighborhood streets that are both parallel and sidestreets to Edgewater Drive were conducted. The list of streets that were counted is based on requests received from the Public during the Public Involvement Process. Overall there was a four percent reduction on neighborhood streets. This is likely the result of fewer vehicles using the area as a cut-through and additional traffic calming measures being implemented in the neighborhood.

The only streets that showed a noticeable increase are Westmoreland Drive near Princeton/Smith and Bryn Mawr Street near Reading Drive. A summary of the Daily Traffic Volumes at the locations is shown in a Table on the following page.

Parallel & Sidestreet Daily Traffic Volume Comparison

Location	Before	After	Change	% Change
Bryn Mawr St E/of Reading Dr	1,751	2,042	291	17%
Bryn Mawr St W/of Reading Dr	1,675	2,026	351	21%
Bryn Mawr St E/of Westmoreland Dr	1,190	1,251	61	5%
Clayton St E/of Edgewater Dr	453	461	8	2%
Elizabeth St S/of Bryn Mawr St	1,562	1,658	96	6%
Formosa Av N/of New Hampshire St	1,698	1,468	-230	-14%
Formosa Av N/of Princeton St	2,351	2,312	-39	-2%
Formosa Av S/of Par St	3,556	3,333	-223	-6%
Formosa Av S/of Princeton St	1,824	1,607	-217	-12%
Golfview St E/of Westmoreland Dr	2,307	2,058	-249	-11%
Golfview St W/of Westmoreland Dr	2,680	2,135	-545	-20%
Harrison Av N/of Winter Park St	965	691	-274	-28%
Harrison Av S/of Par St	1,369	1,180	-189	-14%
Hazel St E/of Edgewater Dr	1,160	1,290	130	11%
Ivanhoe Bv S/of Desoto Cr	1,372	1,459	87	6%
Ivanhoe Rd S/of Princeton St	431	364	-67	-16%
Lakeview St E/of Edgewater Dr	8,015	7,583	-432	-5%
Lakeview St E/of Poinsetta Av	8,466	8,078	-388	-5%
New Hampshire St E/of Gerda Tr	1,204	1,260	56	5%
New Hampshire St W/of Cornell Av	3,014	2,446	-568	-19%
Par St W/of Formosa Av	8,979	8,892	-87	-1%
Par St W/of Harrison Av	9,487	9,804	317	3%
Poinsetta Av N/of Shady Lane Dr	1,512	1,540	28	2%
Preston St W/of Edgewater Dr	1,327	1,261	-66	-5%
Princeton St E/of Westmoreland Dr	9,136	8,475	-661	-7%
Princeton St W/of Princeton Ct	27,047	25,237	-1,810	-7%
Princeton St W/of Westmoreland Dr	8,886	7,725	-1,161	-13%
Shady Lane Dr W/of Edgewater Dr	795	890	95	12%
Smith St W/of Edgewater Dr	7,766	7,530	-236	-3%
Vassar St E/of Reading Dr	830	950	120	14%
Vassar St W/of Reading Dr	735	870	135	18%
Westmoreland Dr N/of Lake Adair Bv	2,574	1,664	-910	-35%
Westmoreland Dr S/of Princeton St	2,677	3,225	548	20%
Westmoreland Dr S/of Vassar St	1,802	2,358	556	31%
Winter Park St E/of Formosa Av	3,683	3,635	-48	-1%
Winter Park St W/of Formosa Av	2,927	2,762	-165	-6%
Winter Park St W/of Harrison Av	1,912	1,952	40	2%
Total	**139,118**	**133,472**	**-5,646**	**-4%**

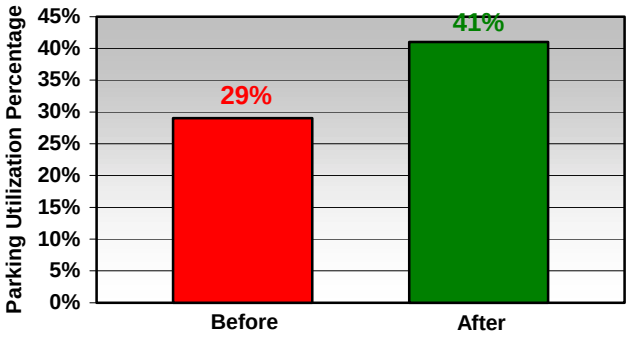
Parking Utilization

Parking Use Counts were completed for On-Street Parking as well as Front & Rear Site-Related parking along the corridor. The counts were completed in the before and after conditions during am, mid-day and pm periods. The after Front & Rear Site-Related parking counts were generally consistent with the before parking use counts. The average parking utilization percentage for Front & Rear Site-Related showed an increase from 38% to 43%.

The inventory of On-Street Parking changed from the before condition to the after condition because some spaces were eliminated based on a site distance evaluation that was completed as a part of the engineering plans for the resurfacing. The change in inventory of the spaces was not related to the reconfiguration from 4 lanes to 3. The inventory would have changed regardless of the cross-section. However it is important to note that the 3-lane cross section does provide additional site distance for sidestreet vehicles over the four lane section because through vehicles have been shifted five feet from the parked vehicles.

The results of the Before and After On-Street Parking Utilization in the areas where the roadway was converted to three lanes showed a significant increase from a 29% utilization to 41% utilization. Much of the increase is likely due to the increased comfort level for getting into and out of parked vehicles along the roadway.

On-Street Parking Utilization -
Three Lane Sections of Edgewater Dr



Pedestrian & Bicycle Volumes

In order to help assess the project's impact on bicycle and pedestrian activity, Before and After Pedestrian and Bicycle Counts were conducted at eighteen locations along the corridor for the seven highest hours of the day. Both the Before & After Counts were completed during a typical Fall weekday (excluding Monday and Friday). The following Tables summarize the totals of the counts for all eighteen locations along the corridor.

Pedestrian Count Summary

Direction	Before	After	Change	% Change
Northbound & Southbound	1,398	1,481	83	6%
Eastbound & Westbound	738	1,151	413	56%
Total	**2,136**	**2,632**	**496**	**23%**

Bicycle Count Summary

Direction	Before	After	Change	% Change
Northbound & Southbound	295	368	73	25%
Eastbound & Westbound	80	118	38	48%
Total	**375**	**486**	**111**	**30%**

Both the Pedestrian and Bicycle Counts showed significant increases from the Before to the After Condition. The largest increase was seen in the number of pedestrians traveling east-west or crossing Edgewater Drive. This indicates that pedestrians are finding it easier to cross using the 3-lane section.

Corridor Travel Times

Travel, Time and Delay Studies were performed for Edgewater Drive in the Fall of 2001 and 2002 as a part of the Regional Computer Signal Systems (RCCS) Project. Travel Time & Delay Studies were performed during the am (7-9) and pm (4-6) peak periods for both the Before (2001) and After (2002) Conditions. The studies are completed by linking a JAMAR TDC-8 Traffic Data Board to the axle of a vehicle traveling the study corridor a minimum of ten times each direction during the peak period. The Traffic Data Board then records the measured delay, travel times, and average speed of vehicles on the corridor including stops and delay. The length of the Corridor Studied for the RCCS Project was from Dartmouth Street to Maury Road. This represents the area where there are traffic signals in a greater density. The results of the Travel Times in the Before and After conditions is summarized in the following Table.

Average Peak Period Travel Time (Minutes)
Edgewater Dr - Dartmouth St. to Maury Rd.

	AM (7:00 - 9:00)		PM (4:00 - 6:00)	
Direction	**Before**	**After**	**Before**	**After**
Northbound	3.3	4.2	3.5	3.8
Southbound	3.2	4.1	3.7	3.5

The am peak period only showed the average travel time increase by approximately 50 seconds from 3 minutes and 20 seconds to 4 minutes and 10 seconds. The pm peak period travel time showed a slight increase in the northbound direction by approximately 10 seconds, while the southbound direction showed a decrease in the travel time by 10 seconds.

Transit Use and Impacts on Operations

Field measurement was conducted to estimate average delay attributable to LYNX boardings in the corridor. Service levels (60 minute headway), routes, and equipment remain unchanged from the "before" field measurement. The average bus loading delay of 30 seconds at Lynx bus stops remains accurate. There are 13 stops northbound and 14 stops southbound between Par Street and Lakeview Street, or approximately every two blocks. All travel time delay studies reflect scheduled transit service. Based on these findings the College Park Neighborhood benefits from scheduled transit service, with minimal loading delays, available at short walking distances from all businesses in the Edgewater Drive Study Area.

City staff will work with LYNX to re-evaluate bus stop locations, especially those located immediately beyond intersections that may affect intersection traffic operations, prior to any future modifications to re-striping.

Property Values

Residential and commercial property values for 2001 and 2002 were compared at the request of the public to determine relative change in comparison with Orange County, Florida. The residential analysis compared approximately 4,600 residential properties and 110 commercial properties within the boundaries of the College Park Neighborhood.

Property values in both the College Park Neighborhood area and Orange County reflected annual growth at a rate of 8 - 10% for residential properties and 1 - 2% for commercial properties. Given the consistency with Orange County and a positive change to property values, College Park properties appear to be increasing in value in response to broad market conditions.

COMMUNITY IMPACT ASSESSMENT

Survey Results and Comments

Resident and merchant feedback was an important part of the project, with hundreds of responses in both the before and after feedback surveys:

Number of Surveys Received

Survery Type	Before	After
Resident	357	507
Merchant	29	112

While scientifically structured random samples are used to draw conclusions, the written feedback survey forms helped in the evaluation of the way residents and merchants felt before and after the project. The 2001 Public Workshop focus groups identified nine key Measures of Effectiveness. Six measures were addressed by data collection and analysis and the remaining three satisfaction measures were addressed through resident and merchant feedback forms, which included 8 feedback statements each.

Two of the satisfaction measures, pedestrian comfort and parking comfort were taken from the resident feedback survey, and increases reflected the conclusions reached through data collection. One satisfaction area, pedestrian comfort as perceived by merchants, was marginally inconsistent with resident responses and data collected through the parking supply and utilization study.

Measures of Effectiveness

A result of the Before Public Involvement Effort was establishing a set of measures the Public wanted used as a part of determining the success of the re-striping project. There was a positive result for each of the measures except the merchant survey measure for pedestrian comfort. A summary of the measures and the result is included in the following Table.

Measure of Effectiveness	Did the Re-Striping Accomplish the Objective?
Avoid Increasing Traffic On Neighborhood Streets	YES
Reduce Speeding on Edgewater Dr	YES
Increase Bicyclist Volumes	YES
Increase Pedestrian Volumes	YES
Reduce Crashes	YES
Increase On-Street Parking Use Rates	YES
Increase Pedestrian Satisfaction (Residents)	YES
Increase Pedestrian Satisfaction (Merchants)	NO
Increase Parking Satisfaction (Residents)	YES

KEY ISSUES & SOLUTIONS

Village Center Transitions

The roadway currently transitions from a 3-lane section to a 4-lane section and then back to a 3-lane section in the Village Center area of Edgewater Drive between Yale St. and Winter Park St. The current configuration was proposed in an effort to test the 3 lanes in parts of the corridor while trying to minimize the potential for traffic diversion and greater delays along the corridor.

However, many of the comments received are concerning the current lane configuration in the Village Center. The main comments concerning the striping in the Village Center Area are as follows:

- The merging at Yale St and Winter Park St are uncomfortable and unexpected.
- The signage of where the lanes change or end is too small.
- The bike lane does not carry through the Village Center.

NB Merging Area Approaching Winter Park St

The proposed solution that will address these comments is to extend the three-lane section into the Village Center except between Princeton and Smith Streets. This will result in eliminating merging or confusion about which is the proper lane to be in for through traffic. The need for the currently small signage indicating where lanes end will no longer be necessary. It will also extend the bike lane into the Village Center. However, there will still be a two hundred foot gap in the bike lane between Princeton and Smith Streets. Edgewater Drive between Princeton and Smith Streets needs to have one through lane in each direction and one exclusive left turn only lane. The left turn only lanes for each direction is necessary to accommodate the queue of northbound and southbound traffic desiring to turn left at these intersections.

Par St to Preston St Merge

Several comments have been received concerning the transition for southbound traffic to three lanes in the Par St/Preston St area. The comments center on not enough advance notification concerning the right lane becoming a right turn only lane at the Edgewater High School Entrance. Potential solutions for this problem have been identified and are still being refined. The Florida Department of Transportation (FDOT) maintains jurisdiction north of Par Street. Many of the potential solutions involve additional signage or striping changes in that part of the roadway. Therefore, a preferred modification to address this issue has not been determined.

Small Signage on SB Approach to Preston St

RECOMMENDATIONS AND NEXT STEPS

The City of Orlando realizes the important stature streets hold in the life of a city or community and is helping College Park towards achievement of the community vision through this project. The corridor analysis advocated by the Neighborhood Horizons Plan looked at redesign opportunities to create a pedestrian and bicycle friendly community-oriented commercial corridor in a safe, quiet neighborhood. The "Before and After" results document the public safety improvements implemented in 2002 as a test project, and recommends short-term and long-term improvements to implement the Horizon Plan Vision:

- Extend the three lanes into the Village Center (except between Princeton & Smith)
- Modifications heading southbound at Par St. & Preston St.
- Seek Grants & Funding Sources to Continue Implementing the Edgewater Drive Vision

The first of these recommendations can be implemented during the first half of 2003 by extending the three lanes into the Village Center (Except between Princeton & Smith) by removing temporary roadway tape and re-striping the roadway, bicycle lanes and parking areas to a 3-lane section in the Village Center of Edgewater Drive.

Solutions for the Par Street to the Edgewater High School area should be developed through a collaborative process that includes Orange County Public Schools, major property owners in that area, and FDOT (as it relates to signing & pavement marking changes needed north of Par Street). Three alternatives for the area from north of Par Street to the Edgewater High School are in development.

The next steps proposed for this project include receiving feedback on the Before & After Studies from the Neighborhood and Merchants Associations in November and December, then the development of plans in January 2003 to implement additional re-striping changes. Actual implementation of re-striping changes & re-timing of traffic signals will be implemented as soon as possible during the period January - June 2003.

These recommendations will allow the City and the Neighborhood and Merchants Associations to continue seeking ways to implement the long-term vision of the Neighborhood Horizons Plan by seeking grants and other funding sources to continue implementing the Edgewater Drive Vision.