

Grandview Island Golf Cart Engineering Study
April 13, 2006

Background: Grandview Island has requested the entire island be designated for golf cart use. The area would include all public streets east of the bridge on the island. Specific streets are Beach Road from the bridge to the dead end, State Park Drive, Adriatic Drive, and Grandview Drive. A map is attached showing the requested streets to be considered for golf cart operation.

The following were evaluated as part of this engineering study using the “Golf Cart Study Guidelines” dated March 30, 2006, copy attached.

Travel lane widths: Vehicular travel lanes meet the required 10’ minimum width however there are some areas which do not have either a parking lane or shoulder of sufficient width for a golf cart to pull to the right. Beach Road, traveling eastbound from the bridge to State Park Drive has no or limited shoulder area with some open ditches. Beach Road from Lighthouse Drive to State Park Drive, traveling in the westbound direction, has no parking lane, limited shoulders and some open ditches.

Speeds: The established speed limit on all streets in the study area is 25 miles per hour except Beach Road which is 35 miles per hour (based upon an engineering study dated February 8, 2005). Speed classifications were taken at three locations in the neighborhood to determine representative 85th percentile speeds. Location # 1 was on Beach Road, approximately 750’ ± west of State Park Drive where the recorded 85th percentile speed was 42.9 mph. Location # 2 was on State Park Drive north of Beach Road where the 85th percentile speed was recorded at 29.9 mph. Location #3 was on State Park Drive south of Beach Road where the 85th percentile speed was recorded at 28.2 mph. All public streets in the study area except Beach Road meet the speed limit criteria established by City Code and the Golf Cart Study Guidelines.

Volumes: Representative traffic volume data was also collected at the above three locations. Average daily weekday 2-way volumes were found to be 1,712 vpd on Beach Road, 337 vpd on State Park Drive north of Beach Road and 483 vpd on State Park Drive south of Beach Road. A maximum volume of 500 vehicles per day has been established to permit safe operation of golf carts. All streets satisfy the volume criteria in the Golf Cart Study Guidelines except Beach Road.

Parking: Parking lanes are provided on all streets within the neighborhood except as noted above in “Travel lane widths”. Where parking can be accommodated, it was limited during the field investigation for this study, thus providing space for golf carts to move to the right if necessary.

Sight Distance: There was no significant sight distance issues discovered during the field evaluation however horizontal curves were noted on State Park Drive south of Beach Road and on Adriatic Avenue, just west of State Park Drive. Parked cars could

potentially create sight distance concerns, especially at or near intersections and horizontal curves.

Accidents: During the three year period from January 1, 2003 to December 31, 2005 there have been five (5) reported accidents of various types on neighborhood streets. Locations of these accidents can be found on the attached accident map.

Recovery Area: Recovery area is available except as noted above in the "Travel lane widths" section of this report.

Sidewalks: Not all streets in the neighborhood have sidewalks to accommodate pedestrians. Approximately 60% of the neighborhood streets do not have sidewalks. The attached map illustrates the streets without sidewalk.

Pedestrians: Minimum pedestrian volumes were observed during field review for this study.

Other Geometric Features: There are two streets with horizontal curves, State Park Drive south of Beach Road and Adriatic Avenue, west of State Park Drive. Cars were parked near one of the curves on State Park Drive, limiting the line of sight.

Field Evaluation with Golf Cart: No field evaluation using a golf cart was done, however from a previous study it should be noted that the maximum speed limit of the test golf cart was 14 mph. The speed differential between motor vehicles and golf carts are of concern, especially in the case of Beach Road where it is nearing 30 mph.

Recommendation: All of the study criteria noted above support allowing golf cart operation on State Park Drive (both north and south of Beach Road), Adriatic Drive, and Grandview Drive. The existing speed limit of 35 mph on Beach Road in addition to the high 85th percentile speed (42.9 mph) and volume greater than 500 vpd (1,712 vpd) preclude the operation of golf carts. Also, lack of sufficient shoulder and open ditches on the southside of the street do not provide a safe recovery area. Because of these factors, golf carts cannot operate on or cross Beach Road. It is recommended that golf cart operation be allowed on State Park Drive (both north and south of Beach Road), Adriatic Drive, and Grandview Drive and that the appropriate warning signs be posted at the entrances of State Park Drive (northbound and southbound) and Grandview Drive (southbound) off Beach Road. The attached map identifies the streets being recommended for golf cart operation.

Disclaimer: The recommended approval for allowing golf carts does not guarantee the safety of their operation on the streets in the study area. The approval recommendation is based upon the findings of the engineering study conducted at this time and actual conditions may change. The recommended approval does not relieve the operator of responsibility for the safe operation of their golf cart. We reserve the right to revisit and resend approval based upon changing conditions such as accidents, traffic volumes, speeds, etc. based upon an updated engineering study.