



V I L L A G E O F K E Y B I S C A Y N E

Office of the Village Manager

Village Council
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DATE: January 12, 2016
TO: Honorable Mayor and Members of the Village Council
FROM: John C. Gilbert, Village Manager
RE: Mobility Study

Village Manager
John C. Gilbert

RECOMMENDATION

It is recommended that the Village Council accept the Transit Mobility Study.

BACKGROUND

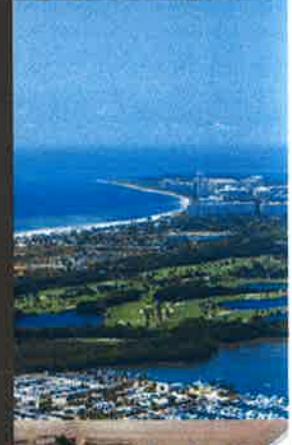
Attached is a Council Summary and the Transit Mobility Study. It is recommended that the Village Council accept the Study. The Village Council can begin the implementation of the recommendations as part of the FY16 Capital Improvements Plan (CIP).



KEY BISCAYNE

TRANSIT MOBILITY STUDY

THE
CORRADINO
GROUP



Council Summary

Living on Key Biscayne is one of the most unique residential experiences in the world. With it comes a specific set of frustrating problems. As the county has grown over the past several decades, the transportation challenges faced by Key Biscayne residents have become more pronounced, and the quality of life is suffering.

The Corradino Group was commissioned to develop a multimodal mobility plan to begin to address these transportation concerns. The most difficult aspect of doing so lies in managing expectations. Obviously the Village is on an island, with only one way in and out, but is not the sole inhabitant. The population has grown significantly over recent years, and today, what was predominantly a seasonal community has become a permanent population consisting of young families with multiple cars.

Over the last decade or so there have been more than a dozen similar efforts to study traffic and transportation. In each, the conclusion has been...that there is a lot of traffic. These studies have searched for more transportation capacity in one form or another. So as a citizen, staff member or elected official, it is a natural question to how this effort will be any different.

The answer is that this is different because the planning is being done for a different market. The Village is being viewed more as a full time community rather than a seasonal one. This report looks at the Village as a contained campus not an integrated city, and then seeks to mitigate through projects in a variety of modes, the bottlenecks which exist at specific points that cause the congestion Village-wide.

What must be realized is that the volume of traffic using roadway system that Key Biscayne relies on is quickly reaching a critical mass at specific periods during the day. There is little elasticity remaining, and while marginal roadway improvements definitely can be made, the capacity gained will be quickly consumed. Leaving us again pondering the next step.

For decades planners have advocated walking, biking and transit as an alternative to the car. Today this cultural shift, enabling and encouraging people to move about the community without a car, is one that is naturally occurring in society. The difference is that now it is gaining momentum more out of necessity than choice, because the roadway system is running out of capacity.

Through the course of the evaluation it was discovered that there are four distinct transportation populations in the area including: full time local residents (and their sub groups, including students), seasonal residents, tourists and visitors, and incoming workers. There are five transportation modes that were examined including: cars and golf carts, bikes, walking, transit. There are two transportation types that need to be treated, including: internal (circulating within the Village), and External (getting in and out of the Village)

To assess the severity of the problem traffic counts were taken at various locations, as were inventories of pedestrian and bicycle and transit infrastructure. Levels of service for each mode were analyzed. Projects were examined in each mode to suggest various methods of mitigating the issues. An interactive public engagement tool was placed on the Villages web site, enabling citizen input on their terms. Over 300 interactions occurred.

External Travel

External traffic and congestion is highly dependent on uncontrollable events sponsored by other

entities. Traffic on the causeway on a normal day during the school year shows that the level of service is at "C". Add a special event to mix, such as a tennis match and the level of service becomes "F". Special events can increase volumes on the Causeway by 18,000 vehicles per day, a 44% increase from non-event days. The frequency of such events creates a persistent delay in moving on and off the island negatively impacting our quality of life. Solving external traffic issues is the most difficult, expensive and controversial aspect of this problem. It can be undertaken by providing people options for to how to get to the event destination.

Internal Travel

Internal travel is focused on the bottlenecks at intersections, particularly at Crandon Boulevard and Harbor Drive. Parking, walking, biking, transit, and golf carts also play a role at intersections, where the interaction between the various modes raises questions of safety within the Village.

The primary issue impacting traffic flow and congestion internally occurs at the Crandon Boulevard intersections, where intersection congestion, not roadway capacity, impacts traffic. Signal timing issues are largely at fault. It has been observed that drivers would regularly have to wait at red lights for up to 3 minutes with relatively little cross traffic. This leads to high levels of frustration.

Similarly, congestion in much of the city is exacerbated by people searching for parking. They will drive otherwise short walkable distances, because there is a perceived lack of adequate and safe pedestrian ways, and there are safety problems crossing Crandon Boulevard. The previous Safe Routes to School Study won a grant in excess of \$800,000 to improve these conditions.

Transit coverage in the community is poor. As a supplement to all of this people have taken to using golf carts. In the constricted environment of Key Biscayne these enable more vehicles to use the space, thereby increasing capacity of the roads and parking areas.

Solutions for External Congestion

Mitigating external congestion is very expensive, involves heavy intergovernmental coordination and often competitive applications for federal funds. Two primary ways to mitigate this are to provide alternatives which lower general automobile traffic, or to provide for more roadway capacity to absorb part of the special events traffic. Multiple options have been developed which could be used, some more practical than others. These include:

- Dedicated Key Biscayne Lanes
- Event Traffic Demand Management
- Park and Ride Facilities
- Daily Travel Demand Management
- Minimizing Lane Closures
- Sobriety checks west of toll
- Mass Transit
 - Light Rail
 - Bus Rapid Transit
- Micro Transit
 - Water Taxi / Gondola type people mover concepts

Solutions for Internal Congestion

The key to relieving congestion internally is in advancing the cultural shift of people being more willing to travel without the single occupancy vehicle. This approach is iterative and predicated on providing options and additional capacity in all the alternative modes, while streamlining the components of the existing roadway system. Additional lane miles are not planned. These are the most realistic, affordable and controllable projects that can be implemented. Suggestions include:

- Intersection enhancements
 - Adaptive Signals
 - Pedestrian Refuge Islands
 - Lighted Crosswalks
 - Lighted Signage
- Increased Golf Cart Access
- Parking
- New Garage
- Transit Facility Improvements
 - Low Speed Vehicle On-Call “Uber” Like Service
 - Potential Automated Vehicle
- Bicycle Facilities
 - Cycle Tracks (protected bike lanes)
- Pedestrian Facilities
 - From the \$800,000 Grant Won From the Safe Routes To School Study
- Enhanced Elderly Services

Overall the projects suggested herein have been provided with a purpose and need, as well as probable costs to plan, design, and construct. These can be moved annually to the Villages Capital Improvement Program as funds and needs warrant. It is believed that by implementing this multi-modal approach by which alternative mode projects are given an increasingly higher share of the funding stream, that internal mobility for residents will improve each year.