



Project Number

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Determination of Traffic Adjustment Factors for Florida's High Tourist Activity Sites

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Current Situation

The tube counters stretched across roads in Florida are a sign of the Florida Department of Transportation's (FDOT) constant work to measure traffic. This information is important for maintenance scheduling and for planning and prioritizing road development. Traffic varies by the hour, day, month, and season, but it is not possible or practical to measure this variation for all time units for every road. This is where traffic adjustment factors come in. Counts taken at strategic times together with data about roads and the areas they serve can help build a picture of likely traffic flows throughout the year. However, during tourist season, Florida roads can experience heavy traffic demand, especially near popular beaches and attractions and especially on weekends and holidays; thus, their traffic adjustment factors are likely to be different from similar roadways elsewhere in Florida.

Research Objectives

University of South Florida researchers determined accurate monthly traffic adjustment factors for roadways leading to major tourist attraction areas and beaches in Florida.

Project Activities

The researchers selected eight coastal Florida locations with high tourist activity. These sites included 12 count stations, from Destin to Bradenton on the west coast and from Jacksonville Beach to Key Largo on the east coast. As a check of automated counters, the researchers collected manual traffic counts made from video taken at the sites during peak season hours. Generally, count station data and manual counts were in good agreement, but count stations tended to undercount when traffic was bumper to bumper.

The researchers acquired traffic count data from FDOT for a one-year sample period, July 2017 to June 2018. In the few cases of missing data, they were completed using data from the previous year (July 2016 to June 2017), adjusted for the sample year's trends. Daily traffic counts were calculated from the complete data set. From these counts, the researchers calculated specific traffic measures for each roadway direction at each of the 12 sites, including an average of daily traffic for the year (annual average daily traffic, AADT), an average of weekday traffic for the year (annual average weekday daily traffic, AAWDT), averages for each day of the week over the entire year (monthly average days of the week, MADW), and an average of daily traffic for each month (monthly average daily traffic, MADT). Using these values, the researchers calculated the traffic adjustment factors: K factor, D factor, and the monthly adjustment factor.

Comparison of monthly traffic adjustment factors for each site showed that the values developed in this project were close to the factors currently used by FDOT, indicating the accuracy of current methodologies. However, for bumper-to-bumper traffic, specific study is needed to develop accurate traffic adjustment factors.

Project Benefits

Accurate measurements of traffic on Florida roads allows more appropriate planning of maintenance activities as well as planning and design of alterations to roads to increase their efficiency and safety.

For more information, please see www.fdot.gov/research/.



Congestion is a common feature of Florida roads leading to beaches and attractions.