

MIAMI BEACH

OFFICE OF THE CITY MANAGER

NO. LTC # 022-2016

LETTER TO COMMISSION

TO: Mayor Philip Levine and Members of the City Commission

FROM: Jimmy L. Morales, City Manager

DATE: January 21, 2016

SUBJECT: **TRAFFIC CONDITIONS**



The purpose of this letter to Commission is to provide some background and historical data regarding traffic conditions and trends in the City of Miami Beach. For the past few years, the City's residents and visitors have experienced increased traffic congestion during morning and afternoon peak hours. Congestion extending throughout our principal arterials affects the performance and effectiveness of traffic signals and increases safety concerns and driver frustration. In addition, motorists attempting to circumvent arterial congestion often cut-through and congest local roadways.

Traffic congestion is a regional issue which affects the City of Miami Beach and requires a holistic analysis and strategic approach. Since the formation of the Transportation Department, the City has pursued various projects and initiatives to mitigate traffic congestion.

To better understand the factors affecting traffic congestion in the City, staff conducted a forensic analysis of daily traffic data for the past 5 years along our Causeways and principal roadways.

A review of county-wide traffic data from the past 5 years indicated a 1% growth in traffic volumes. In contrast, this data is more alarming when we review daily traffic volumes for Julia Tuttle Causeway. Traffic growth has been experienced at different rates in most parts of the County. As an example, staff reviewed available data along Interstate 95 (I-95). In the last 5 years, northbound I-95 traffic volumes have grown by approximately 20%. This growth is particularly relevant to our City due to its detrimental effects to the afternoon peak period when most traffic is exiting the City. In addition, congestion is further exacerbated by accidents or incidents blocking lanes along the causeways or I-95. On a roadway facility such as I-95 with 6 lanes in each direction, including express lanes, an accident can cause a reduction in overall capacity of 25%. This loss is not only attributed to the lane closure but also the friction caused by vehicles changing lanes.

The ability of State Highways, such as SR-836 and SR-112, and Interstate Highways, such as I-95, to effectively move people, is critical to the efficiency of the City's transportation network. As such, the City is currently participating in various regional transportation studies, including serving as a member in the Technical Steering Committee for the I-95 Planning Study. This study is exploring long-term capacity and safety improvements to I-95. Additionally, City staff actively participated in the Technical Advisory Committee for the Beach Corridor Transit Connection Study, prepared by the Miami-Dade Metropolitan Planning Organization, which proposes a Light Rail Transit/Modern Streetcar System connecting Miami Beach to Downtown Miami via the MacArthur Causeway. The City will continue to work with other agencies to

ensure that short and long-term mobility is improved both regionally as well as locally.

CITY CAUSEWAYS

Any discussion of current traffic conditions in the City of Miami Beach must include an analysis of regional growth and how that growth is affecting traffic patterns on the interstate, highways, causeways, arterials and collector roadways, and ultimately, our local streets. Most of the vehicular traffic ingressing and egressing the City of Miami Beach travels along the I-395/MacArthur and I-195/Julia Tuttle Causeways.

Historically, the MacArthur Causeway has had documented congestion and failing level of service during peak traffic periods, while the Julia Tuttle Causeway operated at an acceptable level of service.

In reviewing MacArthur Causeway traffic volumes, the following characteristics were documented:

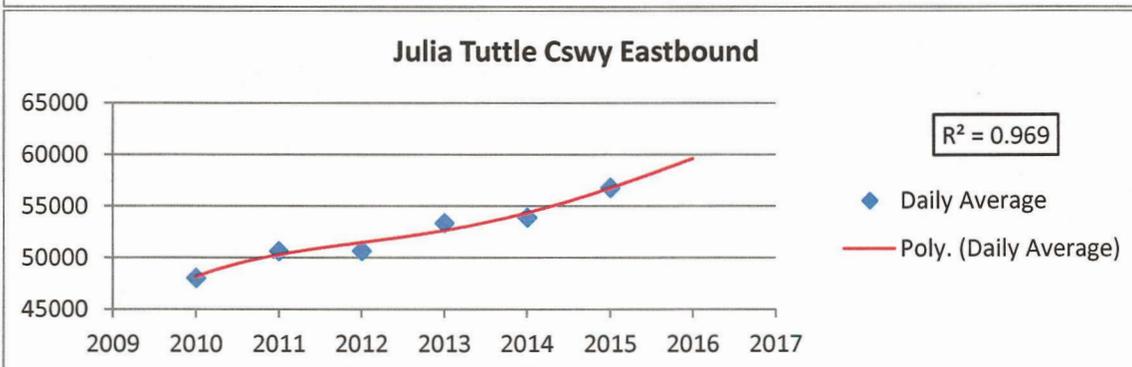
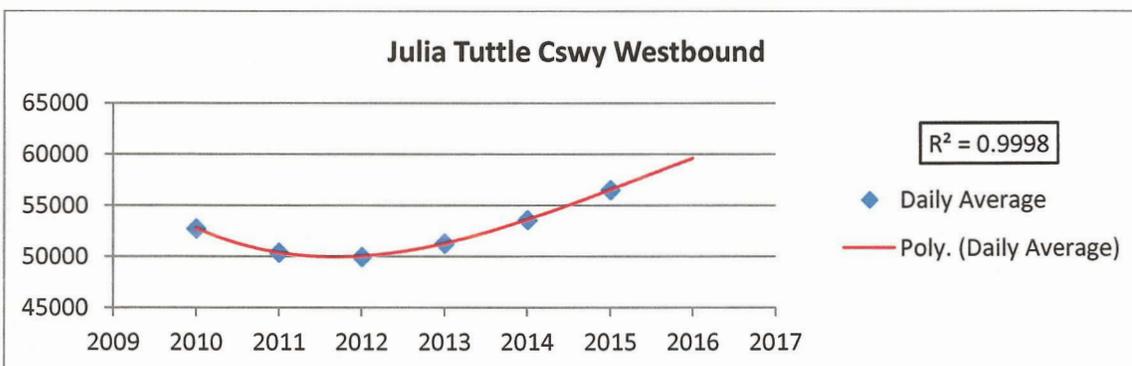
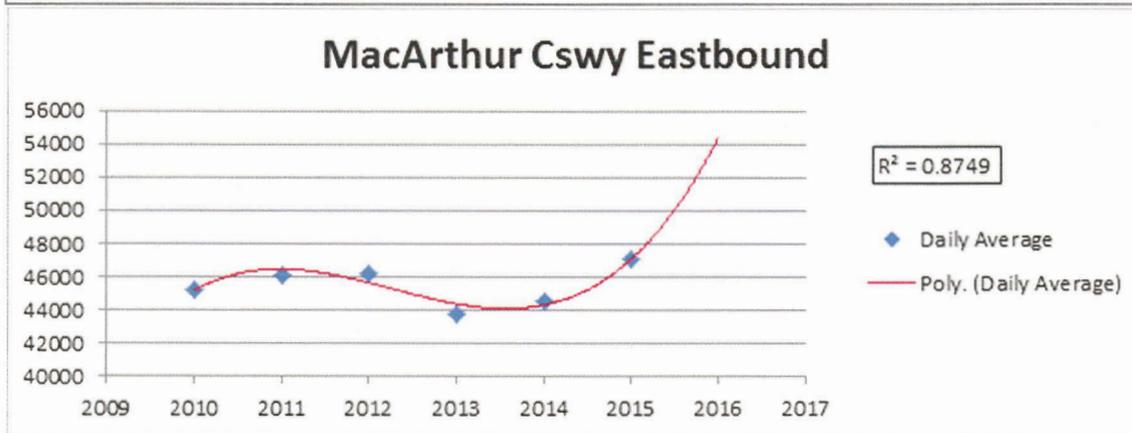
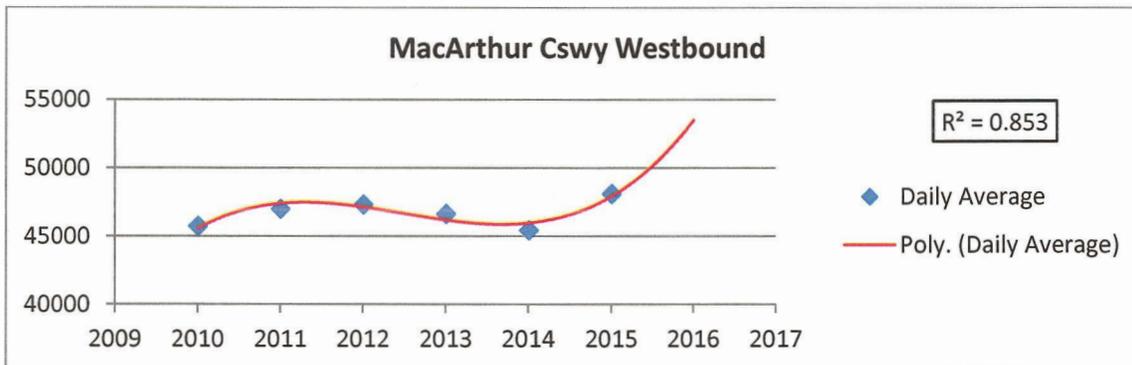
- From 2013 to 2015, daily westbound traffic along MacArthur Causeway has experienced a 3% growth; however, from 2014 to date, average daily westbound traffic has grown 5%, indicative of the temporary drop in volumes in 2014 due to the Alton Road reconstruction project.
- From 2013 to 2015, daily eastbound traffic along MacArthur Causeway has experienced a 7% growth, which is equivalent to approximately 3,500 vehicles per day.

Growth in traffic volumes along the Julia Tuttle Causeway has been more significant.

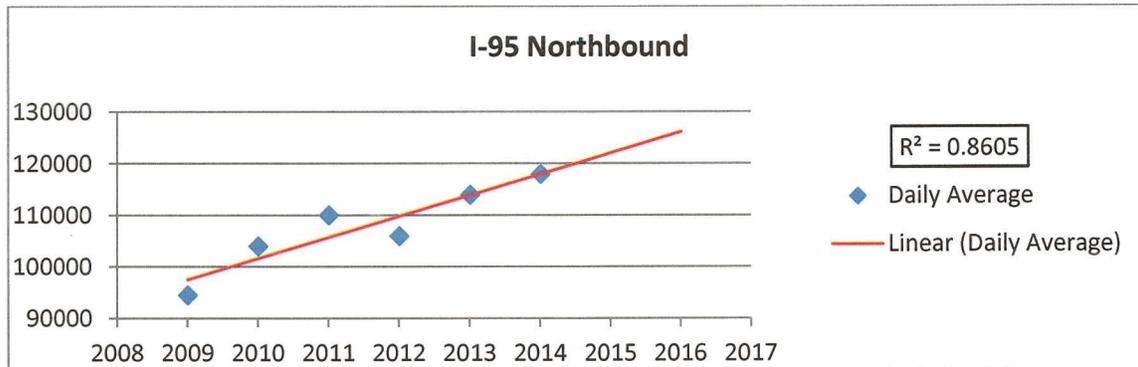
- From 2010 to 2015, eastbound and westbound traffic along the Julia Tuttle Causeway grew by 15% and 12%, respectively. This is equivalent to an additional daily traffic of approximately 15,400 vehicles in a 5-year period and represents an additional 11 vehicles per minute entering or leaving the City via Alton Road and 41st Street.

In reviewing data for both causeways, it is observed that trips into the City are generally growing, (i.e., 7% in the past 3 years representing an additional 13,429 daily trips). However, the data indicates that most new trips are using the Julia Tuttle Causeway. Some of this growth along the causeways can be attributed to the closure of the Venetian Causeway (which has an Average Daily Traffic of 8000 vehicles per day) and would be expected to normalize once the western bridge project is substantially completed and the Venetian Causeway opens to traffic in February, 2016. However, additional volumes on the Julia Tuttle and MacArthur Causeways due to the closure of the Venetian Causeway can only be taken into account for the second half of 2015 when the bridge project began.

In an effort to illustrate the results of the data received from the Florida Department of Transportation, staff created the charts below documenting the growth in volumes over a 6-year period.



The above growth patterns are consistent with the previously mentioned growth in I-95 traffic volumes as shown in the following chart.



INTERNAL TRAFFIC

The City monitors travel times during peak periods. This effort is used to establish thresholds for travel times along major roadways that when exceeded warrant modification in signal timing. In reviewing travel time data collected from December 2014 to January 2015 with data collected from December 2015 to January 2016, no significant changes have been recorded in the overall daily volumes; however, the travel times are higher during the afternoon peak period, which could be attributed to the increasing afternoon traffic volumes along regional highways and causeways.

POPULATION GROWTH AND TRAFFIC IMPACTS

As shown in the 2015 City of Miami Beach Environmental Scan, over the past 5 years, the City of Miami Beach resident population has grown by 4%, while the national average growth for mid-sized cities has been only 1% over the same 5-year period. As commonly mentioned, Miami Beach also has a large group of seasonal residents. The seasonal population has grown more than 50% over the past 10 years; and over the same period of time, average daily population, consisting of daily resident population, labor force in Miami Beach, hotel guests, and other visitors, has grown by 36.5%. It is important to note that these average daily population estimates do not include transient workers such as construction workers and service workers.

Given that the City's estimated modal distribution (based on the City's 2016 Transportation Master Plan) shows that 64% of total trips in the City are car-based, continued growth will result in a significant number of additional vehicles on roadways with reduced capacity and a high number of traffic signals.

TRAFFIC MANAGEMENT

Staff is working on identifying various short-term and long-term solutions to improve traffic conditions within the City. In addition to other short and long term solutions, the City has already implemented an on-going Traffic Management Initiative which includes the following elements:

Traffic Management Working Group

The City has established an internal working group comprised of representatives from various stakeholder departments, including Transportation, Police, Public Works, Parking, and Emergency Management, convening on a bi-weekly basis to discuss proactive solutions that can be implemented on a short-term basis, and exploring ways to proactively address traffic issues in the City. Meeting agendas include potential/on-going improvements, review of prior incidents to identify opportunities for improvement, and discussion of upcoming road closures, etc. to ensure coordination. Some of the initiatives that have resulted from these meetings include the following:

Internal Communications: The working group has created an email to serve for all employees to internally report traffic issues found in the field to the Transportation Department of the City, monitored by the appropriate Transportation staff on duty each day.

Digital Messaging: As part of the new traffic management initiative the City has deployed ten (10) Digital Message Signs (DMS) at strategic locations throughout the City to notify drivers of traffic conditions and traffic incidents. (Attachment A). These DMS are programmed on a real-time basis based on congestion, traffic accidents, and other incidents that disrupt traffic flow. The City is purchasing additional DMS to ensure additional coverage of all principal routes in the City. This initiative is a precursor to the longer term Intelligent Transportation Systems/Smart Parking Systems initiative described below where these mobile DMS will be replaced with more contextual and attractive permanent digital display boards throughout the City.

Event Monitoring and Management: The City has successfully implemented an event monitoring and management program to mitigate the additional traffic during high impact periods. During events, traffic along major roadways has been measured to be 70% greater than during non-high impact periods. The event monitoring and management program consists of utilizing traffic monitoring cameras and travel time detectors to monitor traffic conditions and implement the necessary mitigation measures to manage traffic flow and reduce congestion. To complement the monitoring aspect, the service also includes performing signal-timing modifications.

Peak Hour Traffic Management: Given increasing peak-hour traffic in the City, the contracted event monitoring service was expanded in October 2015 to cover weekday peak periods (7AM-9AM, 12PM-1PM, 4PM-7PM), managing the system through 28 cameras at strategic intersections throughout the City. While that service has yielded valuable improvements, increasing vehicular volumes and construction activities have had a great impact in daily commuting for residents and visitors. In addition, the 28 cameras do not fully cover the City's major arterials and the City is evaluating additional camera placements between intersections. The City is also working to deploy the contractor on-call for the remaining hours in the day.

In addition, staff is actively monitoring existing traffic websites, such as WAZE and Florida SunGuide, to obtain real-time traffic information on our causeways and major arterials and disseminate the information to the traveling public via DMS.

Embedded Traffic Engineer at Miami Dade County: The City has worked with Miami-Dade County to fund a City position to work at the Miami-Dade County Traffic Control Center and work with County engineers to effectuate signal timing changes, as needed.

Traffic Flow Specialists and Additional Traffic Analysts: In November, 2015, the Commission approved a budget amendment to enhance the City's ongoing traffic management initiatives described above to address the adverse impacts of construction projects, accidents, emergency repairs, special events, and other incidents that often result in traffic congestion for residents and visitors traveling on our thoroughfares. This included the addition of 4 Traffic Flow Specialists to proactively identify problems in the field; 2 Transportation Analysts to evaluate and modify signal timing in response to traffic incidents; and 1 Parking Operations Supervisor to support DMS deployment and modifications. These positions have been advertised and are in the process of active recruitment.

Traffic Flow Mitigation Plan Procedure: In June 2015, the Administration updated a procedure issued in January 2015 to ensure the maximization of traffic flow on Major Thoroughfares at all times of day. The procedure specifies the major thoroughfares in the City and prohibits any right-of-way closures on those major thoroughfares during the rush hours (i.e., Monday through Friday, from 7AM to 9AM and from 4PM to 7PM), except for lane closures required for construction activities due to an engineering necessity. Currently, the City is evaluating extending the morning peak hours to 10AM.

In addition to this Citywide Procedure, the City also prohibits any construction activities and lane closures on various principal roadways in the City during major special events and holidays, including Thanksgiving, Art Basel, and Christmas, with the exception of any work related to City projects.

Communications: The City has had its communications staff actively involved in deploying traffic incidents alerts through twitter and other means of social media. In addition, the City is working with WAZE to have incidents uploaded to their application directly from the City.

Text Messaging: The City has implemented a text messaging platform which will enable us to message subscribers with real time traffic text alerts.

OTHER EXISTING INITIATIVES

Intelligent Transportation Systems/Smart Parking Systems

In the immediate term, the City continues to aggressively work on the Intelligent Transportation System (ITS) and Smart Parking System project. A solicitation for the design, construction, operation, and maintenance of the project will be issued this year and project implementation is anticipated in 18 months.

Signal Timing

The City is currently working with its consultant to re-time traffic signals along the following corridors:

- Alton Road from 5th Street to N. Michigan Avenue. As a result of the Alton Road reconstruction project, traffic signal timing was affected and traffic patterns were modified. In order to accommodate the new conditions, City staff and the consultant team are working to reduce traffic signal cycle length (time for a traffic signal to serve all movements within an intersection), in order to reduce queuing along the side streets. Shorter cycles improve traffic flow along residential streets and other local roadways. Implementation of these new

signal timing patterns should be completed in 21 days. Subsequently, a period of 60 to 90 days will be necessary for monitoring and “fine-tuning” of the signal timings.

- This week staff will begin analyzing the signal timing along the 41st Street corridor. The effort is anticipated to take approximately 1-2 weeks. Once new signal timing plans are developed, Transportation Department staff will work with the County to implement the signal patterns prior to the 2016 Yacht and Brokerage Show.
- Similar efforts will be undertaken for additional corridors, such as 5th Street, Collins Avenue, and Indian Creek Drive. The Florida Department of Transportation is currently evaluating signal timing along Harding Avenue//Abbott Avenue/Indian Creek Drive from 85th Street to 63rd Street.

Evaluation of Traffic Created by Trips Using Miami-Beach as an Alternative to I-95 and Biscayne Boulevard

Staff is also examining cut-through traffic through the City via the existing Wi-Fi detectors. The intent of that analysis is to determine how many trips originate in communities outside our City and use our City streets and causeways to cut-through and reach their final destination. The importance of this effort is to determine if cut-through traffic is one of the contributing factors to increased traffic congestion in North Beach.

Transportation Master Plan

The City has been working on a Transportation Master Plan for the past year and has held two Commission workshops and two community meetings on the draft plan during that time. In addition to prioritizing pedestrian and bicycle modes, the master plan recommends prioritization of transit in lanes dedicated to transit (buses and light rail/modern street car) as the primary means to improve travel and mobility in the City.

Reducing Conflicts between East-West and North-South Traffic Flows

A significant amount of traffic delays are created by conflicts between east-west traffic flows and north-south traffic flows particularly along the 5th Street and 41st Street corridors. Delays in the north-south direction are often caused by vehicles travelling in the east-west direction blocking the intersection, as well as cars travelling in the north-south direction waiting to turn left.

Police has significantly increased enforcement related to vehicles blocking the intersection with 2,053 violations issued in the last 12 months. It is important to recognize that the City has 86 signalized intersections along principal corridors. In comparison, there are between 5 and 9 motor officers on duty during the week and 22 patrol officers on any given shift (6 in North District, 6 in Middle District, and 10 in South District), and diversion of these patrol officers to intersection management, particularly in the afternoon peak, significantly detracts from the ability to respond to emergency calls.

In addition, the Transportation and Police Departments are working on implementing a pilot program to restrict left turns at one or more of the major north-south collectors during the afternoon peak in order to improve north-south flow.

TRAFFIC MANAGEMENT WORKSHOP

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At the January 13, 2016 Commission Workshop, the Commission directed staff to conduct a Commission Workshop on Traffic Management Initiatives. We are trying to schedule the workshop for February 24, 2016 just prior to the Commission meeting for Presentation and Awards.

Please do not hesitate to contact me if you have any questions.

Attachment: City of Miami Beach Location of Digital Message Signs

JLM/KGB/JRG/JFD

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CITY OF MIAMI BEACH
LOCATION OF DIGITAL MESSAGE SIGNS

JANUARY 20th 2015

