Meeting of the Bicycle Pedestrian Advisory Committee
Wednesday, January 15, 2020, 5:30 p.m. – 7:30 p.m.
County Center, 18th Floor, Plan Hillsborough Room

I. Call to Order

II. Public Comment - 3 minutes per speaker, please

III. Approval of Minutes – December 11, 2019

IV. Action Items
   A. Election of Officers (Michele Ogilvie, MPO)
   B. 2019 Attendance Review and Declaration of Vacant Seats (Michele Ogilvie, MPO)
   C. Environmentally Sensitive Noise Walls White Paper (Michele Ogilvie, MPO)
   D. 2020 Safety Performance Targets (Johnny Wong, MPO)

V. Status Reports
   A. FY21 & FY22 Unified Planning Work Program Call for Projects (Allison Yeh, MPO)

VI. Old Business & New Business
   A. Announcement: Gasparilla Children’s Bike Rodeo – January 18th, 11 AM – 1 PM

VII. Adjournment

VIII. Addendum
   A. MPO Meeting Summary & Committee Report
   B. CCC Regional Priorities

The full agenda packet is available on the MPO’s website, www.planhillsborough.org, or by calling (813) 272-5940.

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Si necesita servicios de traducción, el MPO ofrece por gratis. Para registrarse por estos servicios, por favor llame a Johnny Wong directamente al (813) 273-3774, ext. 370 con tres días antes, o wongj@plancom.org de cerro electrónico. También, si sólo se puede hablar en español, por favor llame a la línea de ayuda en español al (813) 273-3774, ext. 211.

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CALL TO ORDER

Mr. Forbes called the meeting to order at 5:29 p.m. He announced the order of the agenda will be moved around to accommodate schedules.

Members present: Stephen Benson, Katrina Corcoran, Lynda Crescentini, Peter Davitt, Jonathan Forbes, Rafael Hernandez, Jason Jackman, Richard Johnson, Faye Miller, Richard Ranck, Bill Sapper, Jim Shirk, Holly Simmons, Sally Thompson, Wanda Vinson and Alain Watson

Others present: Wade Reynolds and Johnny Wong - Hillsborough MPO; Sharon Snyder - Planning Commission; Alex Henry – Florida Department of Transportation (FDOT); Monica Martin – Hillsborough County; Julie Bond - CUTR

PUBLIC COMMENT

There were no public comments.

APPROVAL OF MINUTES

Motion: Approval of the minutes of November 13, 2019 (Ranck - Shirk). The motion passed unanimously.

MEMBERS' INTERESTS (2 minutes each)

Peter Davitt – since the last meeting, Mr. Davitt went on a nighttime bicycle ride over the Gandy Bridge, to the Pinellas side and back. He was headed east and noticed that trail in the Fish and Wildlife parking lot is gone. Will it be replaced when the Selmon Extension is finished? Mr. Reynolds will contact THEA and report back to the Committee. Mr. Davitt offered to make a social media push to get the trail put back, if needed. If the THEA response isn’t satisfactory, Mr. Reynolds suggested Mr. Davitt make a motion, at a future meeting, asking the MPO Board to send a letter to THEA requesting the trail be replaced.

Jason Jackman – Thursday, February 27th, is USF Transportation Day and events will be along Holly Drive. Mr. Reynolds asked Mr. Jackson to send him the flyer to include in MPO Committee packets.

Stephen Benson – The City of Tampa will be introducing flexible posts along some of the extra wide bicycle lanes. Posts were recently installed on Azeele in Hyde Park to discourage drivers from parking in the bike lane. Other locations include portions of Bayshore Blvd., Cass Street in North Hyde Park, Floribraska in Tampa Heights, downtown on Florida, Tampa, and Brorein Streets and the Beneficial Bridge on Harbour Island.
V. STATUS REPORTS

A. Agency Project Plans for 2020 for Transportation Surtax (Johnny Wong, MPO)

Dr. Wong commented that individual agency staff will be able to provide answers to detailed questions as he is not the foremost authority on the plans. Dr. Wong reviewed the purpose of the Independent Oversight Committee (IOC) and presented the highlights for the transportation surtax project plans for 2020, which were approved by the IOC in November.

A discussion followed regarding if the IOC has a mandate to consider greenhouse gas reductions or sustainability. Dr. Wong replied neither are addressed in the Charter surtax language, but there is a requirement for one of the Committee members to be an expert in Planning, Sustainability, Finance or Law. This provides an opportunity for a future member to be an expert in Sustainability, bringing their knowledge to the Committee; however, there is not a requirement for projects to meet.

B. Fletcher Avenue Complete Street – Before & After (Sara Beresheim/Julie Bond, CUTR)

Wade Reynolds presented the Fletcher Avenue Complete Streets Project before and after analysis. He reviewed the project and the improvements, which included the addition of five mid-block pedestrian crossings with pedestrian push-button activated overhead rectangular rapid flashing beacons, one mid-block pedestrian crossing with a traffic control signal, LED lighting, raised pedestrian refuge islands, raised traffic separators, landscaping within the medians, bicycle lanes on both sides of the roadway, a speed limit reduction from 45 MPH to 35 MPH, media outreach, signs, online participation, WalkWise Tampa Bay presentations, school engagement, distribution of education materials, and high-visibility enforcement interventions. This 1.5 mile project was completed at a cost of $5 million.

The average daily traffic volumes on Fletcher Avenue have increased since the completion of the project, but at a lower rate than other parallel roadways. Overall, the average speeds of vehicles decreased within the study segment and the average afternoon peak travel times increased. Pedestrian and bicyclist volumes along the corridor also increased after the project was completed. A majority of the pedestrians, bicyclists and vehicles utilized the installed facilities properly and overall total number of vehicle crashes was reduced as well as crash severity. There was an increase in pedestrian and bicycle crashes; however, taking into account the additional volume of pedestrians and bicycle activity, the pedestrian/bicycle crash rate decreased. The severity of the pedestrian and bicycle crashes was also reduced within the project area.

A discussion followed regarding whether the City and County have looked into using solar-powered LED lights. Mr. Forbes stated there is a solar-powered flashing light on 56th Street and Ms. Bond said there are some on the USF campus but they don’t work well because of the trees. Mr. Reynolds stated there are also some solar-powered lights along Bayshore Blvd. Mr. Benson commented that FDOT uses solar-powered lights where they can, but the preference is to tie into a power source. Solar-powered are used where there isn’t a power source. Mr. Ranck responded the County is beginning to install solar-powered warning lights at pedestrian crossings.

Julie Bond presented the Qualitative Study of Pedestrian and Bicyclist Attitudes, Perceptions and Behaviors after a Complete Streets Project. She stated this report is available, if anyone
would like to receive a copy. Ms. Bond reviewed the research objectives, methods, observations, modes of transportation, pedestrian and bicyclist distractions, motorist yielding behavior, intercept surveys, reasons for traveling on Fletcher Avenue, proximity of home to Fletcher Avenue, barriers to using crosswalks, and perceptions of crossing Fletcher Avenue. During the in-depth interviews, interviewees were asked about trustworthy people, knowledge of Florida traffic laws, reasons for not using crosswalks, and safe and unsafe feelings and reasons associated.

Ms. Bond stated the findings of this research are significant as they provide support for the concept that built environment improvements, such as Complete Streets, change pedestrian and bicyclist behavior. More pedestrians and bicyclists were observed using the crosswalks and pushing the crosswalk button compared to previous years. While the observed incidence of pedestrian and bicyclist distraction while crossing in crosswalks continues to be low, the report did show a decline from 2014. Perhaps more notably, 77 of those interviewed said they felt safe crossing Fletcher Avenue in the crosswalk, an increase of 16% from 2015. Although crosswalk use is high, observations indicated that there are still people who will cross outside of the crosswalk on Fletcher Avenue. Interviewees indicated that more crosswalks, police intervention and education would make themselves and others more likely to use the crosswalks.

Discussions followed regarding an interesting statistic regarding bicycle usage on sidewalks; the County is reviewing their transportation technical manual and considering taking bike lanes out and installing wider multi-use paths to accommodate both pedestrians and bicyclists, as studies show bicyclists frequently use the sidewalk anyway; if there is any other research regarding bicyclists usage on sidewalks when a bike lane or trail is available (this is the only study CUTR has done that includes that information); and members are happy to see the high percentage of motorists yielding to pedestrians and bicyclists, however, is the same true on high speed roads such as Busch Blvd. (Mr. Henry stated FDOT is installing HAWKs along higher speed roads).

Mr. Forbes asked that his appreciation for this report be passed along to the project team. Mr. Ranck feels this report shows that lowering the speed limit and installing warning signs helps make the roads safer and lowers the severity of the crashes. Mr. Shirk suggested presenting a certificate of excellence to the project team.

C. Government in the Sunshine State and Public Records Refresher (Cameron Clark, Hillsborough County Attorney’s Office)

Mr. Clark provided the Government in the Sunshine State and Public Records refresher. He distributed a handout of frequently asked questions. He reviewed the definition of a public record and explained the MPO handles all public records requests. He explained the requirements of the Sunshine Law and how it applies to the Committee.

D. Robert’s Rules of Order, the handbook of procedure for creating and acting on motions (Hank Ennis, Hillsborough County Attorney’s Office)

Mr. Ennis presented on the Robert’s Rules of Order, the handbook of procedure for creating and acting on motions. Mr. Ennis is the parliamentarian for Hillsborough County Board of County Commissioners (BOCC). He discussed the basic parliamentary procedures, outlined in the handout he distributed.
Mr. Forbes asked Mr. Ennis if he has observed any missteps by the Committee. Mr. Ennis replied he has never attended a Committee meeting, but he can in the future.

VI. **OLD AND NEW BUSINESS**

There was no old or new business.

VII. **ADJOURNMENT**

There being no further business, the meeting was adjourned at 6:38 p.m.
Agenda Item
Election of Officers

Presenter
Michele Ogilvie, MPO staff

Summary
The MPO By-Laws require that officers are to be elected each year. There are no term limits for officers, therefore they can be re-elected and serve indefinitely. The By-Laws state:

Officers of Standing Committees: The committee shall hold an organizational meeting each year for the purpose of electing a committee chair, a committee vice-chair, and, at the discretion of the committee chair, an officer-at-large. Officers shall be elected by a majority vote of a quorum of the members.

The current BPAC officers are:

- Chairman  Jonathan Forbes
- Vice Chair  Jim Shirk
- Officer-at-large  Vacant

Members can nominate themselves or any other member. No second is needed, and each nomination is voted on individually until one member receives a majority of votes for an officer’s position.

Recommended Action
Hold Election of Officers

Prepared By
Gena Torres

Attachments
None
Hillsborough MPO
Metropolitan Planning for Transportation

Board & Committee Agenda Item

**Agenda Item**
2019 BPAC Attendance Review & Declaration of Vacant Seats

**Presenter**
Michele Ogilvie, MPO staff

**Summary**

The MPO By-Laws require that “at a minimum, committee member attendance will be reviewed annually.” The MPO may review, and consider rescinding, the appointment of any member of any committee who fails to attend three (3) consecutive meetings. Members who have exceeded three absences are contacted to determine their intentions regarding committee membership.

If a seat has been unoccupied for an extended period, then the committee may declare it vacant so that it will not be counted in determining a quorum. (However, if the appointing entity appoints someone to fill the vacancy in the future, then the seat will be considered filled and count towards a quorum.)

**Recommended Action**

As deemed appropriate by the committee.

**Prepared By**
Gena Torres

**Attachments**

2019 Attendance Report
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Board & Committee Agenda Item

**Agenda Item**
Environmentally Sensitive Noise Walls – White Paper

**Presenter**
Michele Ogilvie, MPO Staff

**Summary**
Traffic related noise continues to place a burden on properties that are adjacent to the roadway. In addition to noise, community members in these neighborhoods are also affected by vehicle emissions and other traffic-related pollutants. Transportation agencies have become increasingly aware of such issues and as a result, have put great efforts into attenuating both. To reduce noise levels, noise walls are typically recognized as the most effective method by the Federal Highway Administration (FHWA).

Various types of noise barriers and materials achieve different levels of noise attenuation. Solid cement walls are the most common, providing reliable noise reduction at the most economic price. However, other materials and designs can achieve broader goals. New technological innovations or greening aspects can be integrated into the design with the intention of improving air quality. Impacts on roadside environments can be minimized with living barriers and other landscaping considerations. Including native and self-sustaining species adapted for the local environment enhances the physical appearance, minimizes maintenance, and provides additional social and environmental benefits.

This white paper identifies best practices for the design of noise walls that have been most successful in achieving broad environmental goals. The paper identifies a range of opportunities and improvements in noise wall design and construction. Two types of initiatives should be considered to focus available resources on promoting noise wall design; one focused on process and the second on technical matters. From a process perspective, the paper recommends the MPO consider developing a Noise Wall Implementation Strategic Plan that would identify opportunities to bridge funding gaps for desired noise wall design elements not eligible for federal funding.

**Recommended Action**
Accept the white paper and forward

**Prepared By**
Michele Ogilvie, MPO staff

**Attachments**
Environmentally Sensitive Noise Walls White Paper
Potential Best Practices for Environmentally Friendly Noise Walls

White Paper | December 2019
As urban populations and the amount of highway drivers increase, traffic related noise continues to place a burden on properties adjacent to the roadway. In addition to noise, community members in these neighborhoods are also affected by vehicle emissions and other traffic-related pollutants. Transportation agencies have become increasingly aware of such issues and as a result, have put great efforts into attenuating both. To reduce noise levels, noise walls are typically recognized as the most effective method by the Federal Highway Administration (FHWA). Noise walls are generally capable of reducing noise levels by 5-10 decibels (dBa) for nearby properties. Since the dBa scale is logarithmic, achieving a 10-dBa decrease in noise is the same as cutting noise levels in half. Furthermore, noise walls can provide other visual and environmental benefits, which is why they have become such a common practice around the country. The design and construction of noise walls provides opportunities to improve the sustainability of transportation projects by addressing the social, economic, and environmental concerns of the implementing agencies and community members. Throughout this White Paper, the term sustainability is used to reflect the balancing of social, environmental, and fiscal objectives over a long-time horizon:

- The social benefits of noise walls include their primary purpose as noise attenuators, but this paper also recognizes the potential for noise wall design elements to address other potential societal benefits such as providing healthier air, improving privacy, and contributing to community identity,
- The environmental benefits of noise walls include improved air quality and energy generation, depending on selected design elements, and
- The fiscal considerations associated with noise walls revolve around the affordability of the design elements that provide social and environmental benefits, as well as the direct or indirect economic benefits such as property tax revenue that can be associated with those benefits.

Sound barriers have been used around the world, and extensive literature exists documenting their effects and identifying best practices. Substantial research on sound barriers have been conducted in the United States as well as abroad in nations such as the Netherlands, Denmark, Germany, England, and Australia. The topics covered include policy and regulations around noise and vibration impacts, the effectiveness of different noise attenuation materials and designs, innovative abatement strategies, and general practices for roadside noise barriers. Issues of noise and air pollution are the same for affected
communities, but the ideas and methods to alleviate the effects vary in nature. This White Paper analyzes global best practices for environmentally friendly noise walls and offers recommendations for the transferability of lessons learned globally to applications in Hillsborough County, particularly considering the planning and design processes used by the Florida Department of Transportation (FDOT). This White Paper defines "potential best practices" as a continuum of practices, programs, and policies that range from emerging, promising, and leading to those best practices that have been extensively evaluated and proven effective, as indicated in Figure 1 (Spencer et al., 2013). A challenge exists in defining a bright line between established best practices and emerging, promising, and leading practices; a limiting definition might argue that best practices are defined by current noise wall regulations. Yet, as the public health industry demonstrates, the continuum of practices is in a constant state of flux. The upshot of this white paper is that noise walls can be effective in providing a range of community benefits beyond noise reduction, yet the current regulatory environment inhibits the application and evaluation of potential best practices, requiring innovative partnerships and funding to both achieve, and document, the greatest environmental benefits.

**NOISE WALLS CAN DO MORE THAN ATTENUATE NOISE**

This evaluation revealed improvements can be made in each of the areas listed above. Various types of noise barriers and materials achieve different levels of noise attenuation. Solid concrete walls are the most common, providing reliable noise reduction at the most economic price. However, other materials and designs can achieve broader goals. New technological innovations or greening aspects can be integrated into the design with the intention of improving air quality. Alternative noise wall designs may increase pollutant dispersal abilities while others absorb or break down harmful pollutants themselves. Impacts on roadside environments can be minimized with living barriers and other landscaping considerations. Including native and self-sustaining species adapted for the local environment enhances the physical appearance, minimizes maintenance, and provides additional social and environmental benefits.

The same design characteristics used to improve air quality will have lasting effects on the health of adjacent neighborhoods. Noise walls reduce roadside air pollution concentrations by up to 50 percent, reducing associated risks such as cardiovascular or respiratory illnesses. Special considerations should be given to disadvantaged community members along the area that are disproportionately burdened by
impacts of traffic noise and pollution. Inhabitants within 200 meters of a busy roadway are exposed to the highest concentrations of air pollution and are often society’s most vulnerable populations. Since barriers will be additions to their communities, the residents should be able to easily participate in the decision-making processes. This paper also addresses the concern to minimize disturbance from construction processes.

Other technological advancements offer chances to generate electricity as well as attenuate noise. Agencies have experimented with incorporating solar panels to produce renewable energy. Others have attempted to make small wind turbines powered by vehicular turbulence a feasible addition. Both methods provide opportunities to harness the benefits of private-public partnerships that ultimately improve local communities. Proactive thinking regarding landscaping can result in numerous environmental and health benefits.

REGULATORY “SILOS” CAN HINDER BEST PRACTICES IMPLEMENTATION

An analysis of FDOT’s current practices found the focus of noise barrier design has remained on better modeling noise impacts/benefits independent of other environmental benefits. This focus is a result of continued federal regulatory focus on noise reduction for sensitive receptors as the sole criterion regarding barrier cost-effectiveness, and therefore funding eligibility. As the industry’s knowledge base increases over time, so too has the consideration of a wide range of environmental effects on the surrounding community. However, both federal and state funding regulations have limited the degree to which noise walls have become accepted practice. This White Paper describes the best practices in noise wall treatments pertaining to the following areas of interest: noise attenuation, air quality, public health, disadvantaged populations, energy generation, landscaping and aesthetics, and construction impact mitigation. This paper also suggests opportunities for advancing these practices within the current regulatory environment.

This White Paper discusses sustainable practices that are applicable to noise walls throughout Florida. These practices include strategies to reduce air pollution, generate electricity, and enhance roadside environments. Case studies also introduce the use of non-typical materials to reduce the project’s carbon footprint. The contents of this White Paper are intended to assist FDOT and local communities by providing information on innovative strategies that merge noise abatement with sustainable practices.

FINDINGS AND OPPORTUNITIES

The memorandum provides several recommendations for noise wall implementation generally divided into two categories: one category focused on lessons learned for noise attenuation purposes and another set considering the potential for cross-disciplinary benefits beyond the primary noise attenuation purpose. For further pursuit within both categories the paper proposes establishment of an interagency
Noise Wall Working Group to collaboratively explore opportunities to advance the types of practices described in the following pages.
SECTION 2: PURPOSE AND SCOPE

The purpose of this White Paper is to describe best practices for the design of environmentally friendly noise walls. The paper is based on a review of academic studies and industry sources for national and global noise wall design practices and an assessment of the applicability of the identified design applications for the Florida context.

The bulk of this paper identifies best practices for the design of noise walls that have been most successful in achieving broad environmental goals. In addition to literature research using key word searches, the following other resources were scanned: the Transportation Research Board database (TRID), professional associations (such as the Institute of Transportation Engineers, National Association of City Transportation Officials, etc.), and various FHWA sites. FDOT District 7 staff provided helpful context from their local experience and guidance requested through the Department’s participation in the American Association of State Highway and Transportation Officials (AASHTO) Noise Work Group.

Based on this research, the White Paper identifies completed and planned projects involving environmentally friendly noise walls and notes key features, descriptions, and characteristics. In addition, the White Paper research assessed the noise wall applications to identify demonstrated project success in achieving environmental goals and innovative project elements.

Based on the practices identified through literature research, the White Paper describes and clarifies the environmental benefits achieved or expected from the best practices. This includes answering the following questions, where supporting information is available:

- What makes this project truly successful from an environmental perspective? What are the estimated environmental benefits?
- What are the best practices that were employed for project success? What challenges were faced in the implementation of the noise wall application?
- What are the lessons learned?
- What is the applicability of the noise wall application in the Florida context?

SECTION 3: EFFECTS OF BEST PRACTICES

Roadside noise barriers, acoustical barriers, sound walls, noise walls and sound barriers are all synonyms for any physical structure placed between noise sources and noise-sensitive receptors. These ‘obstructions’ may serve a multitude of purposes in addition to noise attenuation, and in recent decades have been used to help achieve broader environmental goals. Noise barriers have become an increasingly common component of road infrastructure as communities have grown around highways and new roads are constructed near neighborhoods. This section discusses existing best practices for noise wall designs that attenuate noise, improve air quality and public health, address the concerns of disadvantaged populations, and even generate energy.
Traffic noise is reported to be the most common source of noise affecting urban populations, and this trend will likely continue as both urban population and road traffic increases. Sources of traffic noise are vehicle motors, vehicular exhaust systems, and tires interacting with road surfaces. The diagram in Figure 2 shows how noise generation is affected by vehicle speed, traffic volume, and the type/size of vehicles.

Literature shows there are numerous problems resulting from traffic noise. Although the level of noise generated by vehicular traffic is not high enough to directly damage ear functions, long-term noise exposure has been linked to physical stress and health problems. Stressors such as annoyance, communication interferences, sleep disturbance, and reduced efficiency at completing tasks can induce physical problems such as high blood pressure, insomnia, and fatigue (Bluhm et al., 2004; Griefahn et al., 2000; Ohrstrom and Skanberg, 2004).

While it is possible to begin addressing the problems at their sources, the most common solution for reducing traffic noise is to construct roadside sound barriers. The Federal Highway Administration has a vast amount of resources on noise barriers covering the topics of abatement, acceptance criteria, design and construction, inventory, and research. Their research has shown noise barriers can reduce the measured acoustic noise by as much as half if it is designed properly by following current best practices.

Design guidelines ensure that the height and length of the barrier are sufficient to minimize sound that gets diffracted over the edge. To achieve a 5-dBa reduction, the barrier must be taller than the line-of-sight (each additional meter in height reduces sound by approximately 1.5-dBa) and four times the length of the distance between barrier and receiver (FHWA (d), 2017). Two basic, yet effective noise barriers are noise walls or earthen berms, with each having their own advantages and disadvantages. Common materials for walls include concrete, steel, aluminum, timber, safety glass, and acrylic. Most existing walls are constructed out of precast concrete due to its relatively low price and maximum noise reduction properties. Berms are an alternative to walls that simply consist of earthen materials and offer opportunities for natural landscaping. For design considerations, the slope of berms should be no more than 2H:1W (WSDOT, 2016). Therefore, the extra space requirements can often rule out the option of berms where there are right-of-way constraints. Any of these treatments (noise walls, earth berms, or combinations of the two) are appropriate solutions to effectively mitigate noise impacts. However, the

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**Figure 2: Diagram showing how noise levels are influenced by speed, number of vehicles, and type of vehicle. (Source: PennDOT)**
choice of which to use depends on the local context, particularly the right-of-way constraints for using berms.

A 2004 pilot study in Japan described an innovative strategy to reduce noise at the receptor. Along National Route 43 in the Hyogo Prefecture, existing noise walls did not reduce ambient traffic noise to allowable limits. In response, the Hyogo National Highway Office decided to build an additional noise barrier in front of an elementary school adjacent to the roadway. The 4.5-meter wall would have been surmounted with speakers that generated anti-phase sounds, reducing noise levels by about 4-dBa in experimental stages (JPS, 2004). The speakers contained microphones that picked up traffic noise and emitted a noise that counteracted and eliminated some of the noise from reaching the school. However, the article published by Japan for Sustainability (2019) which discussed this project was published prior to the construction, and as of October 2019, Japanese officials have yet to report their conclusions on monitored effectiveness or the durability of the devices. This study proposes an innovative strategy to reduce noise impacts, but the technology currently available is most effective at reducing noise at the receptor.

### 3.2 - AIR QUALITY

Air quality is a function of a variety of characteristics of both the natural environment (related to climatologic elements such as topography and prevailing winds) and built environments (including stationary and mobile emissions sources). Within the Tampa Bay region, the Hillsborough Environmental Protection Commission reports on air quality non-attainment areas per standards maintained by the US Environmental Protection Agency. In 2018, two non-attainment areas for lead and sulfur dioxide, in the vicinity of industrial land uses including the CSX Yeoman Yard and in East Tampa, were redesignated as achieving attainment.

Heavy vehicular activity on major highways and interstates also generates concentrated air pollutants. Traffic related pollutants emitted by motor vehicles include greenhouse gases or particulate matter, which can be further broken down to include ultrafine particulates (UFP), black carbon, nitrogen and sulfur oxides, hydrocarbons and carbon monoxide (Brugge et al., 2007). The areas within 200 meters of major highways are often identified as pollution zones where people are much more likely to be exposed to the harmful pollutants.

Projects including field studies, laboratory experiments, and computer simulations have been conducted to link the exposure to traffic-related air pollutants to health problems. Short-term exposure can exacerbate existing health conditions and long-term exposure can greatly increase the risk of developing diseases and early mortalities (Pope and Dockery, 2012). Ultrafine particles of hydrocarbons and metals (iron and nickel) pose serious health risks to some of the most vulnerable community members: children, teenagers, the elderly, and those with pre-existing conditions. Environmental justice issues must also be noted because vulnerable, low-income or minority communities also tend to live alongside busy roads (Rowangould, 2013). The American Lung Association has compiled research concluding these populations are more likely to be faced with the onset of childhood asthma, impaired lung function, poor cognition,
adverse birth outcomes, dementia, and others such as cardiovascular and respiratory diseases and chronic obstructive pulmonary disease [COPD] (ALA, 2018). To mitigate the effects of air pollution at the receptor, building designers can take extra steps to increase the quality of indoor air. Renovations to clean and reseal air ducts, adding new windows, and installing air-intake systems with maximum ability to capture particulates will help protect their vulnerable inhabitants.

Roadside noise walls also serve as barriers to air pollution. Studies have demonstrated the ways in which this occurs and the effectiveness of dispersion by the walls. Brechler and Fuka (2014) conducted a study which determined that noise barriers affect the dispersion of highway pollutants in three ways. Models display that walls increase vertical dispersion, induce vertical mixing (in the air cavity behind the wall), and loft emissions above the barrier itself (Brechler and Fuka, 2014).
Furthermore, research led by Hagler et al. (2011), analyzed the vertical distribution effects of near-road pollutant concentrations from sounds barriers of different heights. The results of this study are shown in Figure 3, concluding that a 3 meter barrier (described has half-height) reduced downwind concentrations by roughly 20%, and an 18 meter barrier (described as 3x height) reduced concentrations by as much as 70% compared to no barrier at all (Hagler, et al., 2011).

A 2016 study by Baldauf et al. highlighted the influence of noise walls: downwind concentrations of pollutants were reduced by up to 50 percent behind the barrier. These reductions extended up to 300 meters from the road (984 feet), with the highest reductions within the first 50 meters (164 feet) of the
road. This finding suggests that road barriers produce a gradient of air quality improvement with the greatest improvement benefiting the same sensitive receptors that noise walls are designed to protect.

Dense foliage by itself has also been shown to be effective in reducing pollutants with canopies over 16 feet (five meters) in height to sufficiently intercept most mobile source pollutants (EPA, 2016). The benefits of foliage can provide additional air quality improvements when combined with sound barriers. The California Air Resources Board (CARB) has developed a landscaping model for design practitioners based on research by Paulson et al. (2017) showing that addition of foliage (trees or tall bushes) that extend substantially above an adjacent noise wall is effective in reducing downwind pollutants, particularly during calm wind periods. In the case of height restricts or limitations for sound walls, taller trees can be incorporated into the landscape design, as shown in Figure 4. These findings have been incorporated into landscaping design guidance for vegetative barriers both with and without sound walls (SAQMD, 2017).

In recent years, technological innovations have produced walls that are more capable of reducing the amount of traffic pollutants reaching nearby communities. The underlying concept has been to integrate designs which absorb pollutants, which has been done by using porous barriers or catalytic coatings. The SmogStop Barrier (produced by a partnership between Western University, the University of Guelph, and the UK company GRAMM Barrier Systems) uses a “two-pronged approach” to enhance dispersion. Utilizing aerodynamics, this wall functions to generate wind vortices and enhance vertical mixing. The main proponents are two walls with a patented photocatalytic coating in which air flow is funneled between, breaking down harmful pollutants such as nitrous oxides and volatile organic compounds (VOCs) into harmless gases and water. Currently used along some stretches of highway in Ontario, field studies have supported their claims that the SmogStop can reduce traffic emissions by 58 percent and nitric oxide and nitrogen dioxide levels by 37 percent before reaching downwind neighborhoods, however further supporting research will be necessary (GRAMM Barriers, 2018). Similarly, a project conducted by EU-LIFE titled the Sound and Particle Absorbing System (SPAS) used particulate filters in the form of installable panels to remove air pollutants.
The results of this study were mixed, concluding that particulate matter (PM) concentrations were reduced, but the extent of the reduction is dependent on wind direction and pressure. The pollutants must be blown into the filter and field tests revealed the pressure generated by passing trucks was enough to overcome the filter resistance, however passing cars generated insufficient pressure (Schulte and Venkatram, 2013).

3.3 - PUBLIC HEALTH/CHRONIC DISEASE RATES

The effects of traffic-related air pollution on the public health of nearby communities are well documented (ALA, 2018; Brugge et al., 2007; Pope and Dockery, 2012; & Rowangould, 2013). Adverse health impacts from vehicular emissions can be addressed at the source (vehicles and roadways), at the receptor (buildings and neighborhoods), and in between. The research paper authored by Pope and Dockery included an insightful analysis and the section below provides valuable help with closing the gap in scientific knowledge about PM exposure and chronic cardiovascular disease:

Long-term PM exposure has been associated with increased cardiovascular mortality, various blood markers of cardiovascular risk, histopathological markers of subclinical chronic inflammatory lung injury, and subclinical atherosclerosis. Short-term exposures have been associated with cardiovascular mortality and hospital admissions, stroke mortality and hospital admissions, evidence of pulmonary and systemic inflammation and oxidative stress, altered cardiac autonomic function, arterial vasoconstriction, and more. There has also been substantial research exploring potential biological mechanisms or pathophysiological pathways that link PM exposure and cardiopulmonary disease and death. (Pope and Dockery, 2012)

Due to near-road populations having greater exposure to harmful pollutants, there are subsequent economic impacts when medical treatment is necessary. Multiple studies have suggested communities with elevated levels of pollutant exposure coincide with more emergency doctor visits and hospital admissions (Zhang and Batterman, 2014). Market impacts occur as a result of changes in labor productivity (due to absence of work for illness) as well as increased health expenditures (OECD, 2016). The cost of treating patients affected by air pollution poses a burden on stakeholders including insurance companies and employers in addition to the patients themselves. Along the same lines, public programs such as Medicare/Medicaid may benefit substantially if air quality is improved in problematic areas, such as within the first few hundred meters of busy roadways (Romley et al. 2010). Although noise barriers will not be a feasible solution to improving city or region-wide air quality, they can decrease pollution levels of nearby properties, reducing the number of incidences requiring hospital care.
Figure 5 shows the percentage of Hillsborough County residents with asthma, obtained from the Hillsborough County Health Atlas. The prevalence of asthma appears higher in the general vicinity of I-4 and I-275. This observation does not mean that asthma is directly related to vehicular exhaust; correlation does not imply causation. A number of environmental and economic relationships have contributed over many years to the pattern of asthma sufferers. Nevertheless, the correlation does indicate the sensitivity of communities in these portions of the County to health concerns.

Another risk to take note of is lead contamination. Although lead is a naturally occurring element, it is also a pollutant that was emitted by vehicle exhaust until lead additives to gasoline were phased out in 1978. Nevertheless, lead contamination is still present in soils along many long-standing roadways and can become airborne when disturbed by roadway maintenance activities. High concentrations of this heavy metal can be toxic if consumed or inhaled, with the risk heightened for communities with urban gardens alongside congested or heavily trafficked highways. Pediatric lead poisoning is a common occurrence, as children are more vulnerable to exposure. The effects can lower intelligence and slow neurological development but can often be prevented by taking simple steps such as checking the property’s history, testing the soil, and taking extra gardening precautions (Moss, 2018). The consumption of lead-contaminated produce is rarely the cause of poisoning but blocking dust (which may contain lead particles) is another benefit to be considered when adding barriers between highways and near-road communities.

3.4 - CONCERNS OF DISADVANTAGED POPULATIONS

The level of noise pollution is dependent on several factors such as number, type, and speed of vehicles, the material of the road, and time of year. Despite this variability, disadvantaged populations frequently deal with traffic noise and other nuisances associated with proximity to highways. Regarding noise, Nega et al. (2013) studied the Twin Cities Metro Region and found the association between “noise levels and household income, median household value, the percentage of non-white residents, and the percentage of the population less than 18 years of age”. As with noise, Shrestha et al. (2016) concluded that communities with higher socioeconomic vulnerabilities were disproportionally burdened with PM and nitrous oxide (NO₂) pollutants. Similarly, Chakraborty (2009) analyzed the Tampa Bay area and highlights the correlation between areas with high concentrations of vehicular air pollutants and the locations of predominantly in low-income communities.
It is debatable whether the relationship between adverse traffic impacts and disadvantaged populations is caused by intentional planning or market forces. Instances of both causes have been well documented and analyzed in recent years. Some cases show that highways, interstates, and expressways have been constructed nearby or through disadvantaged communities due to the cost of land and inequities in the ability to influence decision makers across urban areas. Others show that market forces were at play when new communities were built near the roads because the land was cheaper, making the housing stock more affordable. Either way, low-income and minority populations are often the ones affected by inequalities associated with noise and pollution exposure.

Attention should be given to addressing the issues of environmental justice. Fortunately, there are many opportunities for public participation throughout the process of designing and constructing sound barriers. Before making any decisions, stakeholders need to be identified and included in discussions. The final decisions on the characteristics of the wall, the features of its design, and whether the community wants a noise wall will be influenced by the participation of those that will be directly and/or indirectly affected. Some neighborhoods may want a sound wall to attenuate traffic noise, but there may also be groups of people adamantly opposed for several reasons: a wall may make them feel isolated or may block their view. If decisions have been made to move forward with concrete barriers, there are a variety of patterns and textures that community members can add that will create a local identity and a sense of place around—for the barrier.

3.5 - ENERGY GENERATION

Although the main function of a sound barrier is to attenuate traffic noise, interest has been growing in deploying photovoltaic systems to generate electricity as well. Energy usage is increasing as urban areas expand throughout the country and many see it necessary to meet growing demands with renewable sources. Dual-purpose photovoltaic noise barriers (PVNBs) offer a partial solution to producing energy in areas while reducing the effects of highway traffic noise.

There is great potential in the state of Florida and throughout the US to implement PVNBs at a large scale. A case study from Wadhawan and Pearce (2017) made the following conclusions: (1) there is no inherent tradeoff between using solar panels and the effective sound abatement of noise walls, (2) the total potential for power generation from existing noise barriers across the country ranges from 7-9 GW, (3) national implementation can produce 700 GW hours per year, enough to sufficiently power over 50,000 households, 4 national savings can total more than $66 million in annual electricity savings through the use of this method. Uncertainty with this calculation is credited to soil and shading losses, which can be minimized by using different directional orientation and mountings, such as cassette (f) and zigzag (e) configurations shown in Figure 6. According to the FWHA, the most common approach to PVNBs globally is to retrofit an existing noise wall with a top-mounted PV system as it offers the highest surface area per linear meter of noise wall (FHWA (b), 2017). Advancements have increased the appeal of PVNBs: costs for installation have declined in recent years and trials have assured the safety and low maintenance of PVNBs as well (FHWA (b), 2017). Additional benefits can be gained as widespread usage of photovoltaic systems
becomes more common. This evolution suggests that less electricity will need to be generated by burning conventional fossil-fuels, offsetting pollution that may impact human health and the environment (Prehoda and Pearce, 2017). Researchers Gu et al. (2012) determined that the payback period to offset the construction costs of PVNB installations to be 5.4 years. The barrier they analyzed used 8-kilowatt peak (kWp) along 360 meters of barrier beside a Chinese metro line and factored in savings from air quality improvements from avoiding emissions (Gu et al., 2012).

When considering retrofitting or designing noise walls to support PVNBs, the leading agency must consider the angle at which the panels are set. Wadhawan and Pearce (2017) show that panels tilted at a 30-degree angle capture the most solar irradiation, although this should be calculated with details of the local latitude and weather conditions. Regarding the implementation of PVNBs, there are three identified impediments to implementing utility-purposed, large scale photovoltaic systems. First, literature reviews have shown the U.S. lacks progressive governmental policies supporting large scale use compared to other countries (Mabee et al. 2011; Moosavian et al. 2013; Solangi et al. 2011). Secondly and along the same lines, there are insufficient financing options (Alafita and Pearce 2014; Overholm 2015). Finally, Margolis and Zuboy (2006) discussed the difficulty of overcoming established energy systems, and that some communities hold a poor perception of the aesthetics of PV systems (Margolis and Zuboy, 2006).

Another electricity-generating option open to further research involves traffic powered wind turbines. Turbines that have been designed to be small, efficient, and powered by low speeds have been placed around the country alongside arterial roadways with high speed moving vehicles. Using the turbulence of passing cars, a windmill is rotated to turn kinetic energy into mechanical energy. This is small-scale energy
generation and is limited to powering streetlights or signs over highways. However, since noise walls are placed a distance away from the road, turbines may not receive adequate turbulence and therefore may not be the most feasible or reasonable addition to invest state or federal funds into.

3.6 - CONSIDERATIONS FOR LANDSCAPING AND AESTHETICS

The main goal of a noise wall is to reduce noise to an acceptable level. These walls can be constructed with a variety of materials, obviously creating a variety of possible appearances. The design process should recruit the assistance of interdisciplinary professionals, including planners, landscape architects, highway engineers, acoustic engineers, and structural engineers from the beginning to ensure that each element is being achieved. This section focuses on the visual quality of landscapes, and the importance of creating a barrier that is visually appealing to the community in which it stands.

Stakeholder input into noise wall design is important to both address the community context and manage expectations regarding the benefits and limitations of the final product. The FHWA has reported that complaints have included a restriction of views, a feeling of confinement, a loss of air circulation, a loss of sunlight and lighting, and poor maintenance of the barrier. Motorists have sometimes complained of a loss of view of scenic vistas and a feeling of being “walled in” when traveling and others have complained poor visual designs “seem out of place, visually oppressive, and overly dominant” when compared to the surrounding environment (FHWA (d), 2017). In areas where viewsheds are important from either perspective (towards or away from the roadway), acrylic walls may be an appropriate solution, although a scan of state DOTs (El-Rayes, 2018) indicated that the high cost and associated maintenance with acrylic barriers makes them a solution only where their visual benefits are paramount.

The most effective way to get the public involved is through public meetings or citizen groups. These events offer a chance to educate community members on noise abatement principles, methods, and benefits/adverse impacts. They also provide the opportunity for the community to give their input on what type of barrier, what materials, and what colors/patterns they would like to see. After all, the noise wall will be a noticeable addition to their environment and should reflect the desires of residents that will view it on a daily basis.

From a design standpoint, noise walls can either blend in with the surroundings or stand out as a visible addition to the neighborhood. To achieve the latter, an increasingly common method is to design a structure that acts as a piece of artwork as well. Examples exist all around the world. In Australia, the Sound Tube over Melbourne’s CityLink Tollway is a multi-purpose project that is used to mitigate noise pollution and act as an iconic piece of local infrastructure. The flashy artistic component was not an initial function; enhancements were made later by adding controllable, alternating LED lights to the structure. Starting as the sunlight fades, different colors and themes illuminate the highway for drivers passing through while minimizing the noise to surrounding apartments. In terms of noise abatement, tunnel structures are one of the highest ranked types in social and technical performance that an agency can consider (Oltean-Dumbrava and Miah, 2016). For another example in Australia, manufacturing company Hebel takes pride that their sound barriers along Sydney’s M4 Motorway (as seen in Figure 7)
are also designed to reduce the monotony of long stretches of roadways. Fragmented into multiple sections, each wall is painted a separate color that links to the surrounding landscape and creates an identity and a sense of place (Hebel, 2017).

To help the wall harmonize with its surroundings, rustic materials or colors found in nature can be used to give the wall a natural sentiment. Likewise, landscaping with native plants in available space provides numerous benefits. According to the Florida Department of Environmental Protection (FDEP), even in dense urban areas, landscaping in tight spaces helps improve the site’s appearance, connect the area back to the natural environment, improve human health and well-being, create micro-habitats, slightly mitigate the effects of urban heat islands, and can even assist with stormwater management (FDEP, 2006). The same document authored by FDEP staff lists and discusses nine Florida-friendly landscaping principles: putting the right plant in the right place, efficient watering, appropriate fertilization, mulching, attraction of wildlife, responsible management of yard pests, recycling yard waste, reduction of stormwater runoff, and waterfront protection (FDEP, 2006).

The creation of living barriers is another method promoting sustainable practices by directly integrating vegetation into the designs. Behind noise reduction, the secondary function of a green/vegetated noise barrier is a mitigative measure to reduce the visual impacts. Creating a forested strand to reduce noise is possible, but the measured noise reduction is limited, and the trees/shrubs used must be sufficiently dense, tall, and wide. However, meeting these criteria, especially in urban areas, is difficult and often impractical (FHWA (d), 2017). With living structures, the entire structure can consist of hardened soil and vegetation or it can have a wired net frame such as a trellis to support vegetation separated from the structures itself.
However, for noise abatement purposes, solid barriers are the most effective (recommended) compared to vegetative barriers because of the non-continuity allowing sound and pollutants to make their way through the openings. As shown in Figure 8, incorporating greening to a solid noise barrier has advantages such as softening the hard structure’s appearance and purifying the air. This trellis approach separating natural plant material from the load-bearing infrastructure provides an opportunity to achieve air quality and aesthetic benefits while reducing maintenance concerns associated with plants burrowing directly into walls or pillars. This concept can be applied to a variety of vertical infrastructure, although care must be taken to ensure the ability to conduct periodic inspections and maintenance of the infrastructure behind the trellis.

Another innovative way to leverage the environmental benefits of a noise wall is to fuse noise abatement and stormwater retention. District Seven is currently exploring plans to harvest rainwater to ease landscape maintenance and make the process more cost-effective. The concept is to create a gravity-fed system that will provide reliable irrigation for tree establishment and supplemental watering during droughts on highway overpass side slopes. Rainwater is siphoned from an overpass catch basin to a cistern that uses gravity in place of pumps and controllers to supply water directly to the roots of trees, shrubs, and ground cover. During the dry season, water trucks will be able to replenish the cisterns if the area lacks enough rainfall. This system could be applied to offer reliable irrigation for a landscaped noise wall that is both water and energy efficient. More importantly, it demonstrates innovative thinking in advancing best practices, a concept explored further in Section 4.

Figure 8: Two applications of trellises produced by Greenscreen, a manufacturer of modular trellis systems. The photo on the left includes a trellis mounted along the side of the Houston Memorial Hospital, and the right photo covers a barrier (Source: Greenscreen)
Maintenance and accessibility are two important considerations in noise wall design. Access points may be necessary for a variety of reasons, including structural or landscaping maintenance or emergency access. Regarding the maintenance on noise barriers along highways, topics that need be considered include the availability of replacement parts, access for extended stretches of barriers, deterioration (from moisture, ultraviolet light exposure, graffiti/vandalism, and loss of painted coatings), landscaping, and litter. The FHWA also identifies snow as a considerable factor but this does not pose a sufficient threat within Florida. To address concerns over access, existing solutions from the FHWA and various state departments of transportation have used overlapping barriers, access doors, removable panels for utilities personnel. For instances where the fire department requires or desires access, techniques may include installing hose couplers, panel mounted valves, or small covered openings (FHWA (d), 2017).

3.7 - CONSTRUCTION IMPACT MITIGATION

During the construction phase for highways and noise walls alike, workers may need to use certain techniques or take special actions to address and reduce the noise they produce. In the Construction Noise Handbook, the FHWA has identified various methods of mitigating construction noise. Special provisions include setting time constraints, using the quietest practical equipment, attending training programs, and including incentives/disincentives for participation (FHWA (e), 2017).

As with general noise nuisances, there are opportunities to mitigate construction noise at different points from the source, along the path, and at the receiver. Managing noise at the source can be done by using less noisy machinery, adequate muffler systems, enclosures, temporary walls, and utilizing existing features like berms/noise barriers (FHWA (a), 2017). If the project site is adding a sound barrier in addition to road construction, there is the option to construct the barrier first to minimize sound disturbance as the remaining construction continues. The FHWA has identified that controlling noise at the receiver’s end should be used as a last alternative, as the other methods include techniques that are more effective. Acoustical window treatments, such as interior or exterior glass sashes, temporary interior clear vinyl curtains, or full acoustical window installation have been implemented successfully (FHWA (a), 2017). Due to the multitude of construction-related factors and the advantages/disadvantages of each option, an individual evaluation should be done before a selection is made.

Construction project managers should take each option into consideration when determining which is best suited for their project. Other considerations to be included are “the amount of reduction needed, local noise ordinances, length of construction period, cost and effectiveness of control strategies, the feasibility of each mitigation measure, any problems with implementing the measure, and the practicality of each method” (FHWA (a), 2017).
SECTION 4: CHALLENGES FOR CURRENT FUNDING AND IMPLEMENTATION

Current noise walls and noise abatement measures may use federal funds as long as the following requirements are met: (1) a traffic noise impact has been identified, (2) the noise abatement measures will reduce the traffic noise impact, and (3) the overall noise abatement benefits are determined to outweigh the overall adverse social, economic, and environmental effects and the costs of the noise abatement measures. (FHWA (e), 2017). One challenge faced by communities in the United States arises from the threshold for noise levels requiring noise abatement. The FHWA requires that measures must be taken to address excessive noise if the levels exceed 67 dBA in residential areas or where schools, hospitals, and places of worship exist, whereas the World Health Organization’s noise value is set at 55 dBA (FHWA (f) 2019; WHO 1999). As a result of these standards, communities in the US are left to deal with higher levels of noise before regulations require abatement considerations. In conjunction with forecasted noise levels, a noise wall will only be implemented if both reasonable and feasible. The criteria by which FDOT considers a noise barrier to be feasible and reasonable are outlined in Chapter 18 (Highway Traffic Noise) of the Project Development and Environment Manual. For instance, areas in which houses are spread apart may have high noise levels that could be mitigated by a wall, but the additional length needed to adequately reduce the noise level may impede on the project’s reasonability.

State and federal regulations divide noise walls into two types. Type I projects are required to mitigate increased noise resulting from highway construction or reconstruction. As this is a required mitigative measure, federal funds can be used to cover most of the costs. Type II projects are those that are built independently from highway construction. Type II projects are retrofit noise walls that are not a DOT requirement, therefore making the standards to receive federal funding much more restrictive. Policy initiatives such as BUILD Grants have been an additional source of funding for noise walls. In 2018, a BUILD Grant was awarded in Louisiana’s St. Tammany Parish to cover $25,000,000 of the total $36,000,000 needed for the I-12 widening and rehabilitation project, which included the construction of a sound barrier to reduce the anticipated noise levels (USDOT, 2018). Any landscaping around noise walls, however, is funded by both the state and the local jurisdiction. Per Section 334.044 (26) of the 2019 Florida State Statutes: “No less than 1.5 percent of the amount contracted for construction projects shall be allocated by the department for the purchase of plant materials” that enhance the roadside environment.

The FDOT stormwater harvesting initiative discussed in Section 3 demonstrates a proactive and progressive approach to furthering best practices, bridging the gap between allowable costs and actual costs. A similar approach could be pursued to develop noise wall designs that surpass minimum requirements and offer multiple benefits to the environment or local community. Such innovative pilot projects can also inspire third party contributors to participate in the project.

Another gap FDOT is attempting to bridge is between the project funding sources. Noise walls are typically funded by state/federal funds. In Florida, these funds are not applicable to barriers not deemed reasonably/feasibly priced. Noise barriers designed to have additional benefits may cost more up front, but this opens the door to third party funding. It can be offset by county or city partners that are willing to financially contribute, or noise walls have an opportunity to be funded by tax increment financing (TIF). TIFs are a method of public financing used as a subsidy for infrastructure projects. Pursuing TIF-funded
projects may provide opportunities for communities to build noise walls that may not have been built without funding assistance. Local governments may consider that the benefits of noise walls may include the effect of an increased tax-base independent of a formal TIF. Ozdenerol et al. (2015) used traffic noise mapping to show traffic related nuisances have a negative effect on housing values. The researchers identified trends showing that housing values depreciate as traffic related nuisances increase. Noise walls can increase housing values, and consequently, property tax revenue, providing local governments a direct interest in partially funding noise walls to offer a return on investment. Additionally, project sponsors can seek funding for noise walls with special design features that improve air quality. The Federal Transit Administration offers funding for projects that improve air quality in areas that are determined to be current/former nonattainment areas in which the standards for ambient air quality for ozone, carbon monoxide, and particulate matter are not met (TDOT, 2019). Consideration should be given to innovative technologies such as catalytic coatings and absorptive materials as discussed in Section 3.2. These techniques may be considered as experimental pilot projects, for which Congestion Management and Air Quality (CMAQ) funding can cover 80 percent of project costs, leaving the remaining 20 percent of capital costs to be matched by local governments, who often are also required to assume maintenance responsibilities.

SECTION 5: OPPORTUNITIES

The range of opportunities and improvements in noise wall design and construction is encouraging. Two types of initiatives should be considered to focus available resources on promoting noise wall design; one focused on process and the second on technical matters.

From a process perspective, the MPO should consider developing a Noise Wall Implementation Strategic Plan that would identify opportunities to bridge funding gaps for desired noise wall design elements not eligible for federal funding. The Strategic Plan would ideally be developed through collaboration in a Noise Wall Working Group of representatives of state, regional, and local agencies involved in environmental quality for transportation projects, and consisting of two geographic components:

- A statewide component to leverage emerging tools and lessons learned from FDOT Central Office, FDOT Districts, and MPOs; particularly regarding success stories and lessons learned statewide and innovative practice successes through similar groups such as the AASHTO Noise Work Group
- A regional component to identify both technical and geographic areas of greatest need within Hillsborough County, identify and cultivate technical and funding champions and innovative funding sources including third party contributions and federal grant opportunities.

From a technical perspective, FDOT could collaborate through the Noise Wall Working Group to review and consider changes to noise wall guidelines and processes. The concepts of sustainability described in the literature can be incorporated into both design and process components to help reinforce the synergies and tensions among the societal, environmental, and fiscal elements of noise barrier treatments. The literature suggests several recommendations for advancing potential best practices in
planning and designing noise walls that may provide a useful starting point, including consideration of both the primary purpose of noise attenuation and the secondary pursuit of cross-disciplinary benefits.

For the purposes of noise attenuation:

- Dark colors are strongly discouraged and light, neutral colors are highly recommended.
- If constructing an earth berm, paving the top for a pedestrian/bike paths should be avoided as the material will reflect noise from that surface.
- If conditions exist to create limits on the height on noise walls, research finds that incorporating a T-top design is equivalent to adding one meter in height of a straight wall.
- Planting at the base of a noise wall can help the wall’s height appear less imposing.
- Depending on the length of the barrier and the need for future maintenance, doorways or gates can be incorporated at reasonable intervals to provide access to either side for both pedestrians and wildlife. To minimize and reductions to the noise walls acoustic performance, an additional parallel barrier in front of the access point which is several times the length of the opening should be installed.
- Brick noise walls are generally less effective than concrete walls, considering total project costs and feedback from contractors and suppliers; bricks can be considered for decorative purposes if they provide context-sensitive value offsetting costs.
- For concrete noise barriers, using the same color and texture for each segment is recommended to reduce costs and ease production processes.

Considerations for exploring additional community benefits beyond noise attenuation include:

- For aesthetic and air-purifying purposes, plant-based greening should be incorporated into noise wall design wherever practical, considering external partnerships for maintenance. As one option, a wire cage can act as a trellis to keep plants away from the wall surface.
- Landscaping with native species should prioritize at-grade planting as opposed to (but not ruling out) planting on the slope of a berm or directly on the barrier. This provides more soil volume, better moisture retention, and more space facilitating sustainable plant growth and allowing greater flexibility when selecting plant species and spatial design. FDOT should continue to prioritize landscaping with native species that connect the project back to the local environment, create micro-habitats, and offer additional environmental benefits.
- Landscape architects should be consulted to select native species that provide habitat opportunities, are low-maintenance, and are best for phytoremediation and carbon-sequestration.
  - Phytoremediation is the practice of plants to remove harmful contaminants in soil, air, or water through accumulation in root systems and plant tissues and is accepted as an environmentally friendly and cost-efficient method to decontaminate brownfield or other contaminated sites (Ansari et al., 2018).
  - The USDA Forest Service defines carbon sequestration as “the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through
photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils (USDAFS, 2016).

- Oltean-Dumbrava and Miah (2016) analyzed the sustainability of various types of barriers. The results are based on performances are shown below, some of which can be seen in the photos/diagrams in Figure 9.
  - The top five overall structures: earth barrier (mound/berm), gabions (wire cage filled with graded stones), steel support structure and concrete panels, self-supporting concrete/brick system, and steel support structure and transparent modules.
  - Top five social performances: earth barrier, tunnel with transparent panels, green barrier (containing vegetation), steel and transparent modules, and gabions.
  - Top five technical performances: tunnel-concrete structure, earth barrier, tunnel-steel structure, gabions, and steel support structure and timber panels.

Top five environmental performances: steel and concrete panels, steel and transparent modules, steel and plastic panels, self-supporting concrete/brick system, and gabions.

The Noise Wall Working Group would provide an appropriate forum for further review and collaboration on the opportunities described in this technical memorandum.

Figure 9: Various types of noise walls. Each is made of different materials, offering not only a different look, but different levels of noise attenuation and prices for construction and maintenance. (Sourced by photo)
REFERENCES


**Board & Committee Agenda Item**

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**Agenda Item**

2020 Safety Performance Targets

**Presenter**

Johnny Wong, PhD, MPO Staff

**Summary**

Under the MAP-21 legislation, the Federal Highway Administration (FHWA) requires state DOTs and MPOs to adopt performance targets for five safety measures. Since 2017, the Florida Department of Transportation (FDOT) has set a statewide target of zero traffic deaths each year. Safety targets must be reviewed and updated every year.

Whereas achieving zero traffic deaths is the long-term aspirational goal of the Hillsborough MPO, the FHWA has encouraged MPOs to select realistic targets based on data analysis. Using a methodology developed for the *It’s Time Hillsborough* 2045 Long Range Transportation Plan to predict performance based on different investment levels for safety projects, crashes have been projected for calendar year 2020.

For 2020, MPO staff is proposing to set safety performance targets as follows:

- Number of Fatalities (2020 Year-end Total): 209
- Number of Fatalities (Five-year Rolling Average): 204
- Number of Serious Injuries (Five-year Rolling Average): 1,255
- Number of Nonmotorized Fatalities and Serious Injuries (Five-year Rolling Average): 222
- Rate of Fatalities per 100 Million Vehicle Miles Traveled (MVMT) (Five-year Rolling Average): 1.41
- Rate of Serious Injuries per 100 MVMT (Five-year Rolling Average): 8.70

These targets represent five-year rolling averages (2016-2020) with a 0.93% crash reduction factor applied. The 0.93% factor represents the annual reduction achievable given existing funding, as identified in the *Vision Zero* investment program in the 2045 LRTP.

The MPO Board prioritizes projects for federal and state funding, many of which meet the criteria for safety projects under the *Vision Zero* program. Both the 2019-20 Transportation Improvement Program and 2020 Transportation Surtax Project Plans have numerous funded projects that enhance the safety of facilities on the high-injury network. Upon implementation, these projects will make progress toward improving safety in future years.
**Recommended Action**
Recommend Approval of 2020 Safety Performance Targets

**Prepared By**
Johnny Wong, PhD, MPO Staff

**Attachments**
None.
Agenda Item
FY 2021 & 2022 Unified Planning Work Program – Call for Projects

Presenter
Allison Yeh, MPO Staff

Summary
The MPO’s transportation planning functions are supported primarily by federal and state grants. These functions must be identified in advance for two fiscal years and encompass the surface transportation planning efforts to be undertaken by FDOT, HART, local jurisdictions, and other agencies. These activities, products and budgeted funds are documented in the Unified Planning Work Program (UPWP). The new UPWP will become effective July 1, 2020 and cover the next two fiscal years.

This month, staff is soliciting planning tasks from our partner agencies and citizen groups. Projects will be considered for inclusion in a draft document to be submitted to FDOT by March 15th. In April/May, a final document will be presented for approval to the MPO committees and Board. The currently adopted UPWP for FY 2019 and 2020 is available on the MPO website. [http://www.planhillsborough.org/unified-planning-work-program/](http://www.planhillsborough.org/unified-planning-work-program/)

The UPWP planning task categories eligible for candidate projects are:

1. System & Corridor Planning
2. Long Range Transportation Plan & Data Monitoring
3. Transportation Improvement Program
4. Public Participation
5. Local & Regional Coordination and Planning.

Recommended Action
None; for information only

Prepared By
Allison Yeh, AICP, LEED GA

Attachments
None
CALL TO ORDER, PLEDGE OF ALLEGIANCE & INVOCATION

The MPO Chairman, Commissioner Les Miller, called the meeting to order at 9:00 a.m., led the pledge of allegiance and gave the invocation. The regular monthly meeting was held at the County Center Building on the 26th Floor Conference Rooms A & B.

The following members were present:

Commissioner Les Miller, Commissioner Pat Kemp, Commissioner Ken Hagan, Charles Klug, Councilman Guido Maniscalco, Mayor Rick Lott, Mayor Mel Jurado, David Mechanik, Michael Maurino, Commissioner Kimberly Overman, Janet Scherberger, Commissioner Mariella Smith and Joe Waggoner.

The following members were absent: Councilman Joseph Citro and Councilman Luis Viera

A quorum was met.

APPROVAL OF MINUTES – November 5, 2019

Chairman Miller sought a motion to approve the November 5, 2019 minutes. Councilman Maniscalco so moved; it was seconded by Commissioner Overman and adopted.

Commissioner Miller welcomed aboard new member Michael Maurino. Michael Maurino introduced himself as the Planning Commission appointee to the MPO and he is the City of Tampa appointee to the Planning Commission. He is the Director of Transportation and Planning for the Westshore Alliance and also serves on the Port Tampa Civic Association neighborhood board.

SPECIAL PRESENTATION: FLORIDA COMMISSION FOR THE TRANSPORTATION DISADVANTAGED

Michele Ogilvie, MPO Staff, stated that each year the Florida Commission for the Transportation Disadvantaged recognizes individuals and organizations within the community that have exhibited exceptional service, personal excellence and dedication towards serving persons who are transportation disadvantaged. This year, the Hillsborough MPO was recognized as the Designated Official Planning Agency that went beyond the scope of its work to implement coordinated transportation. Highlighted in this award is the MPO’s practice of connecting the work of the TD board with the MPO board and the MPO’s other committees. The Commission for the Transportation Disadvantaged staff could not attend the celebration today but sent a message. Also this year, Ms. Gloria Mills, the vice chair of the TD board, was recognized for her 23 years of service to this organization. And in addition, a Hillsborough County Sunshine Line driver received the driver of the year award for the State of Florida, so Scott Clark is present to celebrate with us.

Beth Alden invited the guests up to take a photo with the board.
PUBLIC COMMENT

There were no public comments.

COMMITTEE REPORTS, ONLINE COMMENTS

Gena Torres, MPO Staff, gave a brief report on the action items of the other committees. The CAC met at the Expressway Authority and visited the traffic management center; many thanks to THEA for rolling out the red carpet and to City of Tampa Traffic engineer Brandon Campbell for a great overview; committee members were thoroughly engaged. Following the tour, the CAC reviewed and recommended approval of the amendments to the Transportation Improvement Program and Unified Planning Work Program, one of today's Action Items; these reflect Federal Transit Administration actual grant funding amounts, as well as an allocation from the Board of County Commissioners for safety feasibility studies on eight high-crash corridors in the county; the amendments were also supported by the TAC and BPAC. All committees approved the 2020 calendar of meetings, which is on today's Consent Agenda. HART briefed the CAC and your other committees on their Flamingo fare and One Bus Away app. The CAC and TAC will meet jointly for their next meeting on December 16th at 1:30PM in this same room. The Transportation Management Area Leadership Group held a lengthy discussion at their last meeting on regional priorities; the summary is in your packet; a motion passed unanimously to support HART as it begins to negotiate with CSX for joint use or purchase of rail lines from Downtown to USF for passenger service, and support for the 41-mile TBARTA Regional Rapid Transit, as a priorities on the TMA regional priority list.

We received no Facebook posts and 4 emails. Roc King congratulated Beth and staff for the hard work leading to the adoption of the 2045 LRTP. Secretary Gwynn responded to a woman who lost a family member to a traffic crash; he also clarified the reason behind the bi-weekly fatality reports. On behalf of FHWA, Richard Retting with Sam Schwartz thanked our team for hosting the Safety Performance Target Workshop. Lena Young Green thanked us for being powerful partners with the Tampa Heights Junior Civic Association and bringing folks from the FHWA Peer Exchange for Vision Zero MPO's to view the intersection mural and take a tour of the community.

There were no questions following the committee reports and online comments.

CONSENT AGENDA

A. Committee Appointments

B. 2020 MPO Board & Committees Meeting Calendar

Commissioner Miller requested a motion to approve the consent agenda. Commissioner Overman noticed after reviewing the calendar that there is an MPO meeting on November 4 which is the same day as the BOCC meeting, and there may be a conflict with the June public hearing. Ms. Alden stated we are working from a draft so we may not have the final meeting calendar from the BOCC, but we'll coordinate and adjust.

A motion was made by Commissioner Kemp and was seconded by Councilman Maniscalco. It was approved unanimously.

ACTION ITEMS

A. 2020 MPO Board Officers & Committee Representatives
Cameron Clark, MPO Attorney, listed the officer positions and committee appointments. He asked for nominations for MPO Chair. Commissioner Smith nominated Commissioner Kemp. Mr. Waggoner nominated Commissioner Miller. There were no other nominations. In order of nominations, Mr. Clark asked for a show of hands for Commissioner Kemp. There were five votes out of thirteen members present. He asked for a show of hands for Commissioner Miller. There were eight votes out of thirteen members present. Commissioner Miller was elected chair. Mr. Clark asked for nominations for vice chair. Commissioner Smith nominated Commissioner Kemp. There were no other nominations, therefore Commissioner Kemp will serve as vice chair.

Next is the MPO Policy Committee, which is a five-member committee with two alternates. Presently, the members are Commissioner Kemp, Commissioner Smith, Councilman Maniscalco, School Board member Cindy Stuart, THEA Director Joe Waggoner, and the alternates are Port Director Paul Anderson and Commissioner Overman. He asked if they would like to continue membership or if there were any changes. Mr. Clark confirmed that current membership is maintained. TMA Leadership Group members currently are Commissioner Overman, Commissioner Kemp, Councilman Viera and alternates are Paul Anderson and Joe Lopano. No changes were desired, so they maintained current membership. Transportation Disadvantaged Coordinating Board (TDCB) current chair is Councilman Viera. Ms. Alden conveyed that Councilman Viera was not present due to illness but he expressed interest to continue as TDCB chair. Livable Roadways Committee Chair was Mr. Green, who is no longer the Planning Commission’s representative on the MPO board, so this will require a new appointment. With Mr. Maurino’s consent, Commissioner Miller appointed Michael Maurino. Finally, the representative on the Florida MPO Advisory Council, per the by-laws, is the MPO Chair; the person currently serving as the alternate is Mr. Anderson. There were no changes.

B. Roll-Call Vote for UPWP and TIP Amendments Approved by Committees

Vishaka Raman, MPO staff, presented an amendment to the FY 2019-20 Unified Planning Work Program (UPWP). This is a two-year work program effective July 1, 2018 – June 30, 2020. It outlines major planning tasks, complies with federal and state rules, documents federal and state funding and coordinates federally funded planning tasks performed by the MPO, HART and FDOT. The amendment also appears in the FY 2019-20 Transportation Improvement Program (TIP). The TIP is an annual work program effective October 1, 2019 to September 30, 2020 that identifies, prioritizes and allocates anticipated local, state and federal funding to transportation projects by phase and year, over the next five years. The amendment adjusts the FY20 Federal Transit Administration (FTA) grant budget and contract to match the actual grant award; and adds $500,000 in County funds to Task 2 of the UPWP to perform safety retrofit feasibility studies on eight high-crash corridors identified in the Vision Zero Action Plan.

Mr. Mechanik moved for approval and was seconded by Mr. Maurino. Upon roll-call vote, the motion was approved thirteen to zero.

C. Process for Updating TIP Priorities and Letter to Local Agencies

Sarah McKinley, MPO Staff, presented an overview of the TIP priority-setting process and the development of the TIP. The TIP can be confusing because there are always three, and sometimes four, transportation improvement programs that are in existence or being developed. In June, we adopt a new TIP, but the TIP from the previous year is still in effect through September 30th. The new TIP goes into effect October 1. It includes five years of funding, and priorities for what to fund next. Simultaneously, the TIP to be adopted next June is also being developed, and the MPO staff is working on updating the priority list for projects to be funded in the following year’s TIP. Ms. McKinley briefly explained how the projects on the priority list get funded. FDOT administers many categories of funding, as described in the FDOT Office of Policy Planning Revenue Forecast for MPO 2045 Plans.
There was discussion about whether the local government/agency’s governing board would need to take action prior to the transmittal of priority requests to the MPO; and also if the Policy Committee and MPO board should hold a workshop to discuss the priority requests that are received from local governments/agencies. There was a question if there should be a stand-alone list of MPO priorities for FDOT SIS, FDOT Other Arterials and FL New Starts funding, to highlight the importance of the major capacity projects that are typically funded through these programs.

Commissioner Miller asked whether Ms. McKinley is stating that the MPO will approve the priorities before they are given to the jurisdictions. Commissioner Overman had questions about the process of the priority-setting. Commissioner Smith clarified, we are here to approve the letter that states they will ensure the projects brought to the TIP meeting will go through the local government’s legislative body or staff. Commissioner Miller does not think we should be intruding on the local government, asking the cities’ staff, legislative body or even the mayor to do it. Mayor Jurado commended the joint workshop with the jurisdictions. Mayor Jurado is a firm supporter of home rule. Cameron Clark clarified that the MPO staff does not mandate how the member agencies submit projects. Mr. Waggoner clarified the bullet points and agreed this was a good process. Mayor Lott stated his staff is already following this process and this is not a policy change. Commissioner Kemp appreciated the clarification of the process. Commissioner Overman stated these are only discussion questions and this is a process that will provide value before we end up in a public hearing. She recommends a pre-TIP workshop to discuss the projects and what is important to them. Mr. Klug proposed the wording of the letter be changed, to “suggest” not mandate. Mayor Lott agreed there should be a lot more discussion from the board before the TIP priority approval process, so there are no surprises at the hearing. Councilman Maniscalco pointed out they are becoming more efficient. Mr. Waggoner stated that the order of the bullets is the order in which they prepare things for a group discussion, and it should be the whole board not just the policy committee holding a workshop on the proposed priorities. Commissioner Overman asked if she should make a motion to propose a workshop. Ms. Alden confirmed there is a workshop proposed on the 2020 calendar for March 24, 2020.

Commissioner Miller sought a motion to approve the letter. Commissioner Kemp moved to approve the letter with the Mr. Klug’s wording change, “to suggest” that the projects be submitted instead of “to ask” that the projects be submitted. The motion was seconded by Commissioner Smith.

Mr. Maurino questioned if the letter only goes to the Cities; it does not, it is to be sent to all the governments and agencies which request TIP priorities. Ms. Scherberger does not support the letter because they are asking for another layer of discussion and decision-making at the local governments/agencies.

Mr. Waggoner suggested to change the wording of “legislative body” to “governing body.”

Commissioner Miller sought an Amendment to the Motion to change the wording from “legislative body” to “governing body”. Mr. Waggoner so moved, seconded by Commissioner Overman. The Amendment to the Motion was unanimously adopted.

Commissioner Miller returned to the original motion, now as amended. The motion carried twelve to one. Ms. Scherberger opposed the motion.

**STATUS REPORT**

A. Managed Lanes: Five Case Studies

Anna Quinones, THEA, introduced Rick Gobeille who works for Stantec and will be giving the overview regarding Managed Lanes. Ms. Quinones suggested to have a workshop on managed lanes since this will be a short overview. Mr. Gobeille explained managed lanes are designed to promote mobility and access and to be used as a pricing tool. The goal of a managed lane can be to maximize mobility, to optimize
revenue, or somewhere in between. The characteristics of mobility maximization are travel time reliability, publicly operated, and mobility is the primary goal; whereas lanes with the goal of revenue optimization are usually privately operated and revenue focused yet do improve travel time reliability. Somewhere in between these two goals, you have managed lanes with a balance of mobility and revenue and reasonable tolls.

Commissioner Overman recognizes that managed lanes do have value in some circumstances but would like to know where in our process can we find the best modality for the expressway, and if it is the managed lane process. Mr. Waggoner responded it is typically in the PD&E process. FDOT District Secretary Gwynn stated the FDOT policy is no longer to require that all new expressway lanes be tolled; instead, FDOT will put the appropriate lanes in the appropriate environment. Commissioner Kemp commented that it would be valuable to hear case studies. Mr. Waggoner expressed there are great opportunities with managed lanes and a workshop would be beneficial. Commissioner Smith expressed that not everyone can afford to pay the toll for managed lanes, and there is not necessarily much of a difference in speed. Secretary Gwynn clarified FDOT would not build a managed lane unless it was beneficial. There was agreement to schedule a longer workshop on the topic of managed lanes, to learn more.

B. MPO Chairs’ Coordinating Committee (CCC) Interlocal Agreement: Updates

Beth Alden, MPO Director, stated this agreement is between six MPO’s in West Central Florida for regional transportation planning and coordination. The proposal is to make two major changes to the agreement. The first one is to incorporate the Tri-county Tampa Bay TMA Leadership Group under the auspices of the six MPO’s, so this formalizes the status of the TMA Leadership Group and makes it a part of the overall regional transportation planning and coordination agreement. The other major change has to do with the MPO’s relationship with TBARTA. The legislature has changed the role and geographic area of TBARTA. TBARTA has narrowed in its geographic area, and now focuses only on public transit, so the proposal is that we come back to this agreement among the six MPO’s to take the lead on multimodal transportation planning in West Central Florida, and re-establish that role. Any expenses for the CCC will be shared among the MPOs, and approved by the MPO Boards in their Unified Planning Work Programs. The proposed changes to the agreement will be brought to the CCC for review at its December 13 meeting, and after that, will be brought back to this board for approval. There were no questions or comments from the board members to be brought to the December 13th CCC meeting.

C. Safe Routes National Conference Highlights

Lisa Silva, MPO Staff, presented the highlights for the Safe Routes National Conference. The MPO hosted the three-day conference that was nearly sold out with 425 attendees. There were 184 proposals for 26 sessions and 4 were from our MPO. There were 110 Gulf Coast Safe Streets Summit attendees, for the regional summit that occurred directly after the national conference. In addition, the MPO hosted the State Safety Engineers Meeting on November 12, a FHWA Safety Target Setting Workshop November 13-14, the 2019 Vision Zero Walk of Silence on November 15, and the FHWA National Vision Zero MPOs Peer Exchange November 20-21.

Commissioner Overman commented on the slide from Jeff Speck that asks, why are we building schools on major arterials? Ms. Overman stated until our local jurisdictions incorporate in our land use specifications that building local schools on major arterials is bad idea due to safety of our children this problem will never change.

Executive Director’s Report

A. Independent Oversight Committee (IOC)
On November 21st the IOC for the transportation sales tax did certify that all of the project plans for the local governments’ use of sales tax funding in the upcoming calendar year are in compliance with applicable law. Therefore once the supreme court makes their decision we can get going, without any further delay, with the much-needed transportation improvements.

**B. I-275 North Alternatives Study Next Steps**

This is the feasibility study that was included in the MPO Unified Planning Work Program this past year to look at the feasibility and concept of the Boulevard north of Downtown Tampa in the I-275 corridor. There is a snag in the scope from the current consultant, with the cost of the study being more than we have in our budget this fiscal year. We would potentially like to talk to other consultants that do this type of work. Ms. Alden proposed that the MPO postpone the I-275 North Alternatives Study into the next fiscal year to give the opportunity to speak to other consultants. There was no objection.

**C. Process for 2020 Procurement of MPO General Planning Consultants**

The MPO’s General Planning Consultant contracts generally last for five years. The MPO typically goes through a procurement process immediately after adopting our Long Range Transportation Plan. An advertisement will be run in January, and there will be a multi-agency interview panel for the consultant selection. This team will make a recommendation back to the board in May. In the summer, staff will negotiate the contracts for approval by the board in August.

**D. Vision Zero Quarterly Report**

The Vision Zero Quarterly Report is in the agenda packet for review.

**OLD & NEW BUSINESS**

There was no old or new business.

**ADJOURNMENT**

The meeting adjourned at 10:45 a.m.
Committee Reports

Meeting of the Citizens Advisory Committee (CAC) on November 13
Under Action items, the CAC approved and forwarded to the MPO Board:
✓ Amendment to Transportation Improvement Program and Unified Planning Work Program
✓ 2020 Meeting Calendar

The CAC heard a status report on:
• HART Flamingo Fare and One Bus Away Apps

Meeting of the Technical Advisory Committee (TAC) on November 18
The TAC approved and forwarded to the MPO Board:
✓ Amendment to Transportation Improvement Program and Unified Planning Work Program
✓ 2020 Meeting Calendar

The TAC heard status reports on:
• Vision Zero Speed Management Study
• HART Flamingo Fare and One Bus Away Apps

Meeting of the Bicycle/Pedestrian Advisory Committee (BPAC) on November 13
The BPAC approved and forwarded to the MPO Board:
✓ Tampa Hillsborough Greenways and Trails Plan Update – Map Cleanup
✓ 2020 Calendar

The BPAC heard status reports on:
• Vision Zero Speed Management Study Update

Meeting of the Livable Roadways Advisory Committee (LRC) on November 20
The LRC hosted Leah Shahum, Vision Zero Network as a special guest speaker.
The LRC approved and forwarded to the MPO Board:
✓ 2020 Meeting Calendar
The LRC heard status reports on:

- Hillsborough County Public Works Performance-Based Landscaping Maintenance
- Vision Zero Speed Management Study

**Meeting of the Transportation Management Area (TMA) Leadership Group on November 8**

A video of this meeting can be viewed on YouTube. The group undertook a lengthy discussion of transportation priorities

- The priority list is typically taken up for discussion in February, but due to the Chairs Coordinating Committee adopting its priorities in December, the list was put on the agenda earlier this year
- Because the Westshore interchange had received $1.4B from the governor, it was removed from the priority list and placed on the funded list
- Remaining on the top regional unfunded priority list were I-75 at Gibsonton, I-75 at Overpass, Central Avenue BRT, and I-275 Operational Improvements north of downtown Tampa
- Hillsborough County Commissioner Pat Kemp asked to add an item to the list: support for HART as it begins to explore and negotiate with CSX for joint use or purchase of the rail lines from downtown Tampa to USF for passenger service
- The other Hillsborough representatives in attendance, Commissioner Kim Overman and Tampa Councilmember Luis Viera, were supportive of the ask, as was Pasco County Commissioner Jack Mariano
- The Hillsborough MPO board had unanimously agreed to support HART’s negotiations with CSX at its meeting that week
- Pinellas County Commissioner Dave Eggers, as well as St. Petersburg Councilmember Darden Rice, expressed concern that the project was not well-defined enough to receive FDOT funding in the near future
- Additionally, they expressed surprise at the last-minute nature of the request and wanted to seek additional input from the full Forward Pinellas Board
- FDOT Modal Development Administrator Ming Gao said he felt HART was in a poor position to negotiate without a clearly defined project for the CSX tracks
- Hillsborough MPO Executive Director Beth Alden said Hillsborough has several studies on the CSX corridor, including a completed Environmental Impact Statement, and that the issue in the past had not been studies, but funding
- Now, with the Hillsborough sales tax for transportation, that funding is close to being available
- She also said that she felt if the priority list discussion was delayed until the next TMA meeting in March, it would be a missed opportunity to ask for legislative and FDOT assistance with the negotiations
• Alden reiterated that the ask was for moral support as a region to begin the process of negotiating, which can take several years before reaching agreement

• Councilmember Rice made a substitute motion to add both the HART ask and support for the 41-mile TBARTA Regional Rapid Transit project to the priority list, saying that it would be counterintuitive to speak to legislators about the CSX lines and not the RRT project

• While also not yet a fully defined project, Rice noted the RRT project has been in discussions for years, with legislative funding for the PD&E study currently underway and would be confusing if not included

• This motion passed unanimously

Scott Pringle of WSP consulting gave an update on the TBARTA RRT study

• TBARTA is studying the 41-mile rapid transit on I-275, targeting summer 2021 for FTA submittal

• Of 21 original proposed station locations, the study group decided to keep seven, remove five, and prioritize nine

• The seven must-have stations were:
  • In Pinellas:
  • 4th Street in St. Petersburg
  • Tropicana Field
  • Gateway/Carillon
  • In Hillsborough:
  • Westshore
  • Downtown Tampa
  • USF Area
  • In Pasco:
  • SR 56

• Going forward, the study team will recommend five alternatives to enter the 10% design phase

• Commissioner Kemp, who had previously been critical of the study, said fewer stations was a move in the right direction and reiterated her opposition to creating more parking in service to the project

• HART and the study team have already scheduled meetings to discuss how current service intersects with the proposed service

FDOT District Seven staff gave an update on TBNext projects
• Transportation Development Director Richard Moss lauded the group’s prioritization of the Westshore Interchange, noting that a $1.4B funding lump sum is unheard of.
• The Tampa Bay next projects that are already at least partially funded in the work program - the Gateway Expressway, Howard Frankland Bridge, I-275 North Corridor, the Westshore Interchange, and I-275 in Pinellas - amount to $3.2B in funding.
• Construction on the Westshore Interchange will begin in late 2023.
• Still awaiting funding:
  • I-275 north of Hanna Avenue
  • The I-275/I-4 Interchange
  • Sections of I-75 and I-4

Staff members provided an overview of proposed changes to TMA and Chairs Coordinating Committee Operating Procedures.
• Procedure changes include:
  • MPOs now providing staff support to the CCC, with responsibility rotating quarterly with a different MPO “chair”
  • The TMA being incorporated as a subcommittee of the Chairs Coordinating Committee
  • A yearly elected chair and vice chair of the TMA
  • Several staff teams under the CCC, including a multi-use trails team, Transportation Regional Incentive Program (TRIP) Team, and Regional Big Data Working Group.
• Group members did not have comments, and each MPO in the CCC will receive the procedure changes on its board meeting agenda for approval.
• The TMA Leadership Group will select a chair and vice chair at its first meeting in 2020.

HART staff discussed plans for its investments with the All for Transportation Surtax, which is currently being collected but has spending on hold due to legal battles.
• HART has three buckets of projects that will be funded by the surtax:
  • 45% goes to enhancing bus service
  • This will focus on restoring service from previous cuts, improving weekend frequency, and improving weekday frequency
  • 35% goes to expanding fixed-guideway public transit options
  • This will focus on corridor assessments, future streetcar extensions, CSX evaluation, InVision Tampa Streetcar, and Marion Transitway corridor assessment.
• 20% to remaining funds
• Highlights of planned investments in 2020:
  • $32M to frequency improvement and service expansion, including 86+ route miles of restored service
  • $5.9M in amenity improvements for customers
  • $6.6M to a regional electronic payment system
  • $46M to buying vehicles
2020 Regional Transportation Priority Projects

Hernando/Citrus MPO * Hillsborough MPO * Forward Pinellas
Pasco County MPO * Polk TPO * Sarasota/Manatee MPO

Funded Regional Priorities

❖ Howard Frankland Bridge Replacement
❖ Gateway Expressway
❖ I-75 interchange at Overpass (Phase I)
❖ I-275 Express Lanes from I-375 to Gandy Blvd.
❖ I-75 Interchange at Big Bend Road
❖ Suncoast Parkway 2 Expansion
❖ TBARTA Regional Transit Development Plan
❖ I-275/SR 60/Westshore Interchange
❖ I-275 Operational Improvements north of downtown Tampa

Top Priorities for the Greater Tampa Bay Region

❖ I-75 Interchange at Gibsonton
❖ I-75 Interchange at Overpass (Phase II)
❖ Central Avenue Bus Rapid Transit
❖ Central Polk Parkway Segment 1
❖ US 41 from SR 44 to SR 200
❖ Desoto Bridge Replacement
❖ Bradenton-Palmetto Connector
❖ Regional Rapid Transit in the I-275 Corridor
❖ Support HART’s exploration and negotiation for use of the CSX right-of-way for passenger transportation