Hillsborough TPO
Transportation Planning Organization

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Tampa, FL, 33602

Meeting of the Technical Advisory Committee

Monday, June 6, 2022, 1:30 pm
County Center, 18th Floor – Plan Hillsborough Committee Room

All voting members are asked to attend in person, in compliance with Florida's Government in the Sunshine Law. Please RSVP for this meeting. Presenters, audience members, and committee members in exceptional circumstances may participate remotely.

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  https://attendee.gotowebinar.com/register/1758658276628011534
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- Dial in LISTEN-ONLY MODE: 1-213-929-4212 Access Code 906-076-913
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Agenda

I. Call to Order & Introductions

II. Roll Call & Declaration of Quorum (Gail Reese, TPO staff)

A. **Vote of Consent for Remote Member Participation** – *if applicable*

III. Public Comment - 3 minutes per speaker, please

IV. Approval of Minutes – May 2, 2022

V. Action Items

A. Transportation Improvement Program (TIP) Update, FY 2022/23 - 26/67 (Johnny Wong, TPO Staff)

VI. Status Reports

A. Hillsborough County Corridor Planning and Preservation Best Practices Study (Sarah Caper, Hillsborough County Staff)

B. Tampa Vision Zero Implementation through Maintenance
(Cal Hardie, COT Staff)

VII. Old Business & New Business

VIII. Adjournment

IX. Addendum

A. TPO Meeting Summary and Committee Reports

B. Fact Sheet: I-75 Big Bend Road Interchange construction and announcement of June 7 open house

C. Fact Sheet: SR60 Median Modification and announcement of June 14 hearing

D. Asphalt Art Safety Study

E. Passenger Rail Workshop Slides, MPOAC Freight and Rail Committee

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

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HILLSBOROUGH COUNTY
TRANSPORTATION PLANNING ORGANIZATION
TECHNICAL ADVISORY COMMITTEE
HYBRID MEETING OF MAY 2, 2022

I. CALL TO ORDER, ROLL CALL AND CONSENT VOTE FOR REMOTE PARTICIPATION

Chair Sims called the meeting to order at 1:36 PM

Members Present In-Person: Jeff Sims, Brian McCarthy, Brian Pessaro, Gina Evans, Leland Dicus, Chris DeAnnuntis, Mark Hudson, Sofia Garantiva, Melissa Lienhard, Nicole Sutton

Members Present Virtually: Michael English, Clay Hollis, Danni Jorgenson, Chedeline Apollon

Members Absent/ Excused: Mike Williams, Jonathan Scott, Robert Frey, Sarah Caper

Others Present: Elizabeth Watkins, Johnny Wong, Amber Simmons, Davida Franklin, Vishaka Shiva Raman, Christopher English, Greg Colangelo, Priya Nagaraj, Wade Reynolds, Beth Alden, Connor MacDonald, Davida Franklin, Lionel Fuentes, Lisa Silva, Joshua Barber, Gail Reese (TPO Staff); Alvaro Gabaldon (Planning Commission Staff); Frank Coughenour (City of Plant City); Siaosi Fine, Suzanne Monk (FDOT District 7)

An in-person quorum has been met.

Chair Sims called for a Vote of Consent for Remote Member Participation

Mark Hudson made the motion of consent for remote member participation, seconded by Sofia Garantiva. Voice vote; the motion passed unanimously.

II. PUBLIC COMMENT *(Timestamp 0:02:40)* – None at this time

III. APPROVAL OF MINUTES *(Timestamp 0:02:48)*– April 4, 2022

Motion to approve April 4, 2022 minutes by Leland Dicus, seconded by Nicole Sutton. Voice vote, motion passes unanimously.

IV. ACTION ITEMS

A. FY23 & FY24 UPWP Approval (Amber Simmons, TPO Staff) *(Timestamp 0:03:40)*

- Review of what the UPWP is and its purpose.
- Went over Major Planning Tasks.
  - Review of the budget and where funding comes from.
  - Showed the six tasks and the new task 7 which is a Regional LRTP (shared funding)

- Went over the summary of FY 21 and 22 projects
- Current DBE is at 14.5% of projects, state goal is 10.5%
- Review of UPWP Development Schedule
- Showed this year's partner agency requests for planning and analysis, critical path projects for FY 23 & FY 24, and other recommended projects
- UPWP coordinates the funding – FDOT planning activities are appendix G, HART will be in H.

Presentation: FY 23 and FY 24 UPWP Adoption
Website: UPWP website

Recommended Action: Approve the FY 23 & FY 24 UPWP.

Brian Pessaro moves to approve the FY 23 & FY 24 UPWP, Mark Hudson seconded. Voice vote, motion passes unanimously.

B. TPO Membership Apportionment (Elizabeth Watkins, TPO Staff) *(Timestamp 0:10:24)*

- Review of background.
- Went over considerations – heard different concerns from the TPO Policy Committee and others.
  - Government in the Sunshine Law
  - Analyzed all MPO/TPO across the state of Florida, Hillsborough County has the least amount of elected officials making up the vote.
  - Population growth and the percentage of growth in the unincorporated county.
- Review of three Scenarios.
  - Showed breakdown of proposed votes on the TPO Board and summary table.
- Went over proposed TPO Board votes versus the 2020 census data..

Presentation: Hillsborough TPO Membership Apportionment Plan
Draft: TPO Apportionment Plan Draft

Recommendation: Consider and provide comments on the apportionment plan and forward it to the TPO Board.

Discussion:

It was noted that in other counties, the airports are owned by the county and are county departments. Things happen in and around the airport and the passengers and employees need representation on the TPO Board. The airport is a government agency and uses public money. They choose not to use taxpayer money. Members of the board are appointed by the Governor. The airport is disappointed in this action. This is taking off people who do transportation and feel they are being removed because people don't like the way they are voting. There was a question regarding other MPOs versus the Hillsborough TPO and how they each are doing things, particularly MetroPlan Orlando. Port Tampa Bay expressed similar feelings to that of the Aviation Authority and agree with the points made by the Aviation Authority. The Port tries to make sure they are good stewards of the very small portion of taxpayer money and use those towards capital

improvements. Believe removing the seat from the TPO Board is removing an important voice in transportation. They have BOCC representation on their board, the Tampa Mayor sits on their board, and there are five Governor-appointed members of their board. It was asked why this is being looked at right now. The timing is because of the census and this needs to be looked at every ten years. It was asked what type of feedback has been heard from the TPO Board and the Planning Commissioners. It was asked how long the status quo had been in play. At least ten years. It was asked if there is a timeframe for this action item. The TPO Board will consider the plan at their May 11th meeting. It was asked what the opinion was of other committees who have heard this. LRC voted to keep this status quo. BPAC did not have a quorum, had a discussion on the proposed plan, and also suggested the status quo. Several members of the committee indicated that they would abstain from voting on this item based on the fact that the groups they represent have not heard the new plan and provided direction and/or this item does not reflect the committee member's representation on the Technical Advisory Committee. It was noted that there is not enough information from key players potentially being removed from the TPO Board and why this change is being sought. There were no members willing to make a motion to support the new plan or to make a motion to support any other suggestions. The committee would like more feedback from the affected agencies.

The committee does not have the support to move to approve the apportionment as presented. If an action needs to be taken at a future meeting, the committee would make a motion not to approve the new apportionment based on the comments made in the discussion today.

C. Public Participation Plan: Measures of Effectiveness Report (2020-2021) (Davida Franklin, TPO Executive Director) *(Timestamp 0:36:15)*

- Went over why we do this report, why public engagement is important
- Review of categories
  - Visibility & Productivity – went over statistics and public visibility
  - Participation Opportunities – individuals who have attended Board and Committee meetings, speakers, received agendas, and event participation
  - Public Interest & Feedback – review of activities
  - Public Input – outreach events for studies and how input drives recommendations
  - Community Engagement – FLiP Jr., Remembrance Walk, Garden Steps, Gulf Coast Safe Streets Summit, and many more
  - Input Results – review of recommendations from 2020 – created FLiP Jr. program, One Minute Matters videos, hybrid engagement through pandemic, TIP Amendment pilot.
  - 2022 Recommendations – Increase digital and social media tools to increase engagement, provide more clarity about the TPO's role and responsibilities in the transportation planning process, use focus groups more often, build a culture of awareness

Presentation: Public Participation Plan Measures of Effectiveness
Draft: Measures of Effectiveness Report

Recommendation: **Approve the draft report and forward it to the TPO Board for approval.**

Discussion:

It was noted that having this report is excellent to see how things are being done and whether or not goals are being met. It was expressed that meeting the public where they are is great outreach (Nondiscrimination Plan process) and that the methods going forward in the recommendations are good. It was noted that many of the feedback methods are giving very small sample sizes and it is difficult to engage people. A suggestion was offered to see if an overall transportation section could be added to Driver's Education.

Brian Pessaro moved to approve the Public Participation Plan, seconded by Brian McCarthy. Voice vote, motion passes unanimously.

V. STATUS REPORTS

A. **Transportation Improvement Plan (TIP) Priorities Update: Preliminary Draft** (Johnny Wong, TPO Staff) *(Timestamp 0:54:28)*

- Review of background information. The LRTP is the 25-year plan; the TIP represents the detailed version of the LRTP.
- Important TPO planning project and went over the approval process.
- Three sections:
  - Projects that are programmed for construction will remain in Table 1 until they are complete.
  - Table 2 is the list of candidates for new funding and seeking funding.
  - Table 3 is all other projects. Any project that has funding over the next five years; many fall into miscellaneous categories along with local CIP funding projects.
- Went over Table 2 in a bit more detail as this is what is approved each year.
  - TPO staff use criteria for prioritization
  - Make recommendations on funding to go over
  - Once adopted, the projects are placed on the TIP Tool on the website.
- Table 1 has been reformatted to make it clearer and easier to understand
  - Removed some projects as they have been completed
  - Went over new items for this year; projects that received funding
- Table 2 is the priorities list
  - State of Good Repair & Resilience – percent of transit assets that are not in a state of good repair.
  - Vision Zero – received a lot of requests for this area. Had to add additional filters to assist in prioritizing. If there was no funding identified for funding, it moved down the list. Used criteria to identify projects near disadvantaged communities to break ties in the crashes per mile.
  - Smart Cities – reliability improvement.
  - Real Choices When Not Driving – look at population density within a certain distance of paths and trails. Because there were so many safety projects, some were shifted here.
  - Major Investments for Economic Growth – connect people to jobs or are somewhat expensive for the TPO to use discretionary grants. If there was a safety project that was more than $5 million, they were put into this category.

- Next Steps – a little more than a month away from the public hearing
  - Regional Coordination – waiting for their priorities to be finalized
  - Went over the TAC's homework assignment
  - 30-day review, public notice
  - June 8th is the TIP public hearing.
  - Noted that the TAC will see this presentation again at the beginning of June.

Presentation: TIP Preliminary Draft TAC

B. **Live. Grow. Thrive. Tampa Comprehensive Update** (Alvaro Gabaldon, Planning Commission Staff) *(Timestamp 1:15:28)*

- Update to the City of Tampa's Comprehensive Plan, currently in the first phase, updating the planned vision.
- Review of what the Comprehensive Plan is, how it works, and what is in it.
- Incorporating previous plans and outreach done by the City of Tampa, the Planning Commission Staff, and the TPO Staff. Have about 10,000 responses that the vision is preliminarily based on.
- Current themes are Live Grow Thrive
- Reviewed timeline
- Asked that the committee go to the website and take the survey and share it with others they know.

Presentation: Live Grow Thrive 2045
Website: Live Grow Thrive 2045: Tampa Comprehensive Plan Update

Discussion:

It was noted how large of an undertaking updating the comp plans is. The feedback is important and can have a real impact on how things are fashioned for the future. It was asked if the FLU assessment for the winter is going to be an assessment of the map or text only. Will be providing the GIS data to the consultant to be more than text.

VI. OLD BUSINESS & NEW BUSINESS *(Timestamp 1:24:24)*

A. **Memo on the Sunshine Law.**

B. **The Clean Air Fair on May 5, 2022.**

C. **Aviation Authority is updating its plan for the master plan. There is good information on their website - https://www.tampaairport.com/MasterPlan**

D. **Next meeting is on June 6, 2022.**

VII. ADJOURNMENT

Meeting adjourned at 3:XX PM

A recording of this meeting may be viewed at:
https://www.youtube.com/channel/UCsojHyZb_mkYIU3o32Tbg4w/featured

Hillsborough TPO
Transportation
Planning Organization

Board & Committee Agenda Item

Agenda Item

Transportation Improvement Program (TIP) Update, FYs 2022/23 – 26/27

Presenter

Johnny Wong, TPO Staff

Summary

Staff has prepared the annual update of the Transportation Improvement Program document for the fiscal year period of 2022/23 – 2026/27. The TIP document includes three important lists, organized into tables, which are integral parts of the plan:

1. Existing Priorities Funded for Construction: these are priorities that are under construction or have funding to begin construction within the next five years. This list also includes partially funded projects, which are included to show community support while they await completion.
2. Candidates for New Funding: these are priorities that need federal and state funding because they have been shown to address urgent transportation needs in the community. This list organizes projects into the appropriate investment program and ranks them in order based on the estimated impact they will have on the community's goals.
3. All Other Projects Funded in the Next 5 Years: this list is quite large and includes projects programmed by the FDOT based on our previous year's priority list. It also catalogs all projects in our partners' local Capital Improvement Programs, even though the TPO does not control what projects appear in the CIPs. The table indicates the status of each project, what type of project it is, and the costs associated with each phase.

Staff will present the updated TIP document, including the three lists mentioned above, and describe any changes and additions made during this annual update.

The TPO Board will hold its annual public hearing to review and adopt the TIP on June 8th, 2022. Following the hearing, the TPO must submit the adopted TIP to FDOT by August 1st. Federal funds expenditure may be authorized using this TIP starting October 1, 2022.

Recommended Action

Approve the FY22/23 – 26/27 Transportation Improvement Program and forward to Board for consideration

Prepared By

Johnny Wong, PhD, TPO Staff

Attachments

TIP Public Hearing Flyer_English version

Plan Hillsborough
planhillsborough.org
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813 - 272 - 5940
601 E Kennedy Blvd
18th floor
Tampa, FL, 33602

TIP Public Hearing Flyer_Spanish version

FY2022/23 - 26/27 TIP; Tables 1,2,3 Included

Presentation Slides

Priority Request Letters Submitted to the MPO by Local Partners

Hillsborough TPO
Transportation
Planning Organization

Board & Committee Agenda Item

Agenda Item:

Hillsborough County Corridor Planning and Preservation Best Practices Study

Presenter:

Kristine M. Williams, FAICP (CUTR) and Sarah Caper, AICP (Hillsborough County)

Summary:

In early 2022, Hillsborough County completed a Corridor Planning and Preservation Best Practices Study in anticipation of the recently started Corridor Preservation Plan. The purpose of the Best Practices Study was to provide insight and guidance on the current state of the practice in Florida, best practices within the State, and also best practices nationally, focusing on multimodal corridor planning and preservation.

The Study includes policy and planning context for corridor management in Florida, best practices for integrating land use context and modal options, and how resilience to climate change and emerging technology may be reflected in contemporary thoroughfare plans. The recommendations included in the study provide guidance on future corridor planning needs.

The presentation will provide an overview of the Best Practices Study and seeks input in updating the Corridor Preservation Plan.

Recommended Action:

None. For information only.

Prepared By:

Gena Torres, TPO Staff

Attachments:

Presentation Slides

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Hillsborough TPO
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Board & Committee Agenda Item

Agenda Item:

Tampa Vision Zero Implementation through Maintenance

Presenter:

Cal Hardie, City of Tampa

Summary:

In 2019, Mayor Castor and the City's Transportation Advisory Team released five strategic recommendations to address a number of mobility related issues facing the City of Tampa. These recommendations include:

- Implement strategic transit projects
- Focus on trails and greenways as transportation options
- Adopt Vision Zero as a citywide policy
- Reinvent urban parking & mobility
- Enhance neighborhood engagement

Tampa MOVES (Mobility, Opportunity, Vision, Equity, and Safety) is the City of Tampa's new transportation plan to address these recommendations.

A major component of the MOVES effort is to implement Vision Zero. The City recently completed its first ever Vision Zero Action Plan, which details the strategies the City and its partners will take in the short-term to reach the goal of zero roadway fatalities and severe injuries. Staff will share highlight implementation of the Vision Zero Action Plan through maintenance projects.

Recommended Action:

None. For information only.

Prepared By:

Lisa K. Silva, AICP, PLA, TPO staff

Attachments:

City of Tampa MOVES webpage
City of Tampa Vision Zero webpage

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HILLSBOROUGH TRANSPORTATION PLANNING ORGANIZATION BOARD
HYBRID MEETING, MAY 11, 2022
DRAFT MINUTES

I. CALL TO ORDER, PLEDGE OF ALLEGIANCE *(Timestamp 1:31:07)*

Commissioner Cohen, called the meeting to order at 10:04 AM and led the pledge of allegiance. The regular monthly meeting was held in-person and virtual via WebEx.

II. ROLL CALL (Gail Reese, TPO Staff) *(Timestamp 1:32:16)*

The following members were present in person: Commissioner Harry Cohen, Commissioner Pat Kemp, Commissioner Kimberly Overman, Commissioner Mariella Smith, Councilman Guido Maniscalco (in at 10:35 AM), Councilman Joseph Citro, Mayor Andrew Ross, Commissioner Nate Kilton, Joe Lopano, Greg Slater, Charles Klug, Planning Commissioner Cody Powell

The following members were present virtually: Adalee Le Grand, School Board Member Jessica Vaughn

The following members were absent/excused: Commissioner Gwen Myers

Letter received from Commissioner Gwen Myers

5/11/2022

TPO Board Members,

Good morning, I apologize however due to an unforeseen event, I am unable to attend today's meeting. Please read this letter into the record.

A quorum was met in person.

A. **Vote of Consent for Remote Member Participation.**

Voice vote, motion passes with one "Nay" vote.

III. APPROVAL OF MINUTES *(Timestamp 1:33:16)* **–** April 13, 2022

Chair Cohen sought a motion to approve the April 13, 2022 minutes. Councilman Citro so moved, seconded by Commissioner Smith. Voice vote: motion carries unanimously.

IV. PUBLIC COMMENT *(Timestamp 1:33:34)* (30 minutes total, with up to 3 minutes per speaker) Additional comments made via Social Media and Email can be found at the end of these minutes.

- Rick Fernandez – Out of Tampa Heights and is a Tampa Heights Civic Association member and Vice-Chair of the TPO CAC. Written comments have been submitted via email and additional verbal comments were made at the TPO Policy Meeting on May 11, 2022. It was asked that

the Public Participation Plan Effectiveness Report document be removed from the Consent Agenda and returned to the author(s) for correction/update where the DTI project is concerned. The CAC approved the report with the caveat that "The report needs to acknowledge the challenges over the last two years in communicating with the public about the design of the Downtown Interchange". The request was made on May 4, 2022, and there has been no effort to supplement the report. It is not worthy of Consent Agenda treatment. The CAC has begun a review of the TIP draft. The three-lane movement making up the DTI Quick Fix are now on Table 1. The CAC has recommended that two of these lane movements be removed due to their impact on Tampa Heights. The third lane movement was the subject of a motion to strike in 2021 made by a TPO Board member. Suggests that that motion should be revisited in 2022. It was noted that if those that ran on the promise to fight the expansion of the interstate in the urban core of Tampa honor their commitments, this project can be stopped this year. There is also a matter of dedicated bus lanes on Florida Avenue and Tampa Street through a lane repurposing request from HART. Asks that this step be taken and that the dedicated lanes be included in the project descriptions for this year's TIP in Table 1. They are currently not there. Referencing FPN #'s 511-7 & 511-8.

- Anthony Mangieri –A life-long resident of Hillsborough County, particularly the northwest area of the county. Explosive growth has put challenges on our local infrastructure. In the northwest county, Van Dyke Road between Dale Mabry and the Sun Coast Parkway, there has been explosive growth and land-use changes that have driven up traffic volumes to the point of needing additional lanes. These are needed for life safety for the hospital, the local fire station, and for the main hurricane evacuation route. There is a project on the books that was explored in 2014 with some funding and land acquisition for this expansion. That project has been continually delayed out to 2027 when the initial completion was scheduled for 2024. This is creating a life safety issue and this corridor has a high crash rate according to Hillsborough County Sherriff's records. Are looking for some temporary, reasonable measures until the project can be moved forward. Is asking for further review of the timing of this project and some temporary engineering fixes for the short term.

- Lena Young Green – is continuing to request that Tampa Heights and the surrounding neighborhood be considered as further transportation decisions are being made. The community is back making the requests for consideration going into the TIP hearing in June. Ask that the impact of the extending roads and interstate lanes in our neighborhoods. It impacts us environmentally, socially, and in our health. Asked that Rick Fernandez's presentation be supported.

- Mauricio Rosas – Emphasized what was said in the TPO Policy meeting earlier about land use. The county needs land use correction. If the current path is continued there will not be reasonable mass transit for the outer county. Segments D and E of the Green Artery have been funded but there is no record for construction dates. These projects are shovel-ready. Back to I-275; the underpasses at Osborne, Chelsea, and Floribraska are not uniform with MLK and Hillsborough Avenue. According to FDOT staff, the decision was arbitrary. All of those underpasses are constructed exactly alike. All of the underpasses in Ybor City and Westshore look the same. When

you go north, they don't look alike anymore. There is no placemaking, there is nothing identifying the area as East Tampa or Seminole Heights.

V. **<u>COMMITTEE REPORTS & ADVANCE COMMENTS</u>** (Bill Roberts, CAC Chair; Davida Franklin, TPO Staff; Beth Alden, TPO Executive Director) *(Timestamp 1:44:38)*

A. CAC – Bill Roberts, CAC Chair (May 4, 2022 meeting)

- In-person quorum voted to allow virtual members to participate.
- Heard public comment.
- Took action on:
  - Approved FY 23 & FY 24 UPWP
  - TPO Apportionment Plan Draft, as recommended with a 10 – 4 vote. There was considerable discussion.
  - Public Participation Plan Measures of Effectiveness Report (2020-2021) – with the caveat that the report needs to acknowledge the challenges over the last two years in communicating with the public about the design of the Downtown Interchange
- The CAC has held two workshops in preparation for the upcoming TIP. Will be taking action at the June 4th meeting.
- The committee discussed the standards of conduct coming before the Board and support them.
- Heard status reports on: Live Grow Thrive Tampa Comprehensive Plan Update, TIP Priorities Update: Preliminary Draft

B. ITS – April 14, 2002 (Davida Franklin, TPO Staff)

- Approved Smart Cities Mobility Plan
- Heard status reports on
  - Regional ITS Architecture – FDOT Statewide and Regional ITS Architecture website
  - Low-Cost Air Quality Monitoring Pilot Study
  - FY 23 & FY 24 UPWP Preliminary Draft
  - Introduction to new TPO Studies

C. TDCB – April 22, 2022 (Davida Franklin, TPO Staff)

- Held annual workshop seeking public engagement on the Transportation Disadvantaged Program
- Approved CTC Trip and Service Rates for 2022/2023
- Heard status reports on
  - FY 23 & FY 24 UPWP Preliminary Draft
  - Introduction to new TPO Studies

D. TAC – May 2, 2022 (Davida Franklin, TPO Staff)

- Approved
  - FY 23 & FY 24 UPWP Approval
  - Public Participation Plan: Measures of Effectiveness Report (2020-2021) - Members commented that they liked that outreach is being tracked and evaluated and agreed that the engagement on the Non-Discrimination Plan was very effective.

- The TAC heard a motion to approve the Apportionment Plan as recommended but the motion failed to pass, therefore no action was taken. Comments included:
  - HCAA commented that you cannot compare Hillsborough to other MPOs because most airports are owned by the County. In examples where there is an independent authority, they have voting seats. For example, Orlando International Airport has a voting seat on the MetroPlan Board. HCAA representatives speak for the Board, not the CEO. HCAA has a unique perspective as a transportation operator and should retain a voting seat. The Port Authority agreed with HCAA and finds the proposed plan disturbing.
  - Planning Commission, Hillsborough County, and City of Tampa representatives abstained from voting since their Boards have not taken a position.

- Status reports heard – Transportation Improvement Program (TIP) Priorities Update: Preliminary Draft; Live Grow Thrive Tampa Comprehensive Plan Update; HCAA is updating its Master Plan

E. LRC – March 23, 2022 (Councilman Citro, City of Tampa and Davida Franklin, TPO Staff)

- Took action on
  - TPO Membership Apportionment Plan Draft – the LRC did not approve the staff recommendation, instead moved that the TPO Apportionment be left Status Quo.
    - Councilman Citro (noted LRC discussion on the Apportionment Plan) – noted that the LRC had a lengthy discussion about the make-up of the TPO Board. It was the decision, not unanimous, to keep it status quo. There was the consensus that two members need to remain on the Board, the Port of Tampa and the Airport Authority. These are two major entities that deal with transportation in the county. Also felt that because of major highways intersecting in the City of the Tampa and the number of fatalities in the City of Tampa and the number of bicycle and pedestrian crashes in the City of Tampa that there should be another representative from the City of Tampa.
  - Public Participation Plan Measures of Effectiveness Report was approved.
  - Comments on ETDM Project #14486 (US 301 from Moccasin Wallow Road to SR 674 – The LRC moved to submit the staff comments, comment from a member of the public on behalf of the Sundance Community, and additional comments made by the committee on the topics of rural context, wildlife crossings, safety, and a request to return to the committee at the design phase.
- Heard status reports and updates on: FDOT District 7 Safety Program, FY23 & FY24 UPWP Preliminary Draft, Introduction to new TPO Studies, memo on Government in the Sunshine, Live Grow Thrive Tampa Comprehensive Plan Update.

F. BPAC – April 27, 2022 (Davida Franklin, TPO Staff)

- Did not have a quorum and were unable to take action but provided some comments.
- Action Items
  - Public Participation Plan: Measures of Effectiveness Report (2020-2021) – expressed their appreciation for the report and continued outreach.
  - TPO Apportionment Plan Draft – Members had several questions on the proposal:
    - Is there an issue with the current distribution?
    - Would this put the City of Tampa at a disadvantage? (It was pointed out that County Commission Districts also include cities.)

- Should the independent agencies be removed? Some members expressed that they provided value and expertise to the conversation.
- Several agency staff commented that they would abstain since their agencies had not yet taken a position.

- Heard status reports on the following: the City of Tampa MOVES and Vision Zero Action Plan, Introduction to New TPO Studies, Live Grow Thrive Tampa Comprehensive Plan Update

G. TPO Policy Committee – April 13, 2022 Meeting (Beth Alden, TPO Executive Director)

- Reviewed two items on the Consent Agenda – Smart Cities Mobility Plan Update and the Public Participation Plan: Measures of Effectiveness Report. The Policy Committee supported approving these items.
- Reviewed a preliminary draft of the TIP Priority List which will be at the public hearing in June. There were some comments that the staff will be addressing.

H. Public Comments Received Through Email & Social Media (Davida Franklin, TPO Staff).

Detailed Email and Social Media are located at the end of the minutes.

VI. PUBLIC COMMENT FEEDBACK (Secretary David Gwynn) and Discussion with the TPO Board *(Timestamp 1:56:20)* – Secretary Gwynn noted that FDOT will contact the contractors to make sure the dust mitigation is being handled appropriately. It was also noted that the underpasses are still in process and FDOT is continuing to work with the community and the city to make them as pedestrian-friendly and welcoming as possible. Not all of them will have the same treatment. Are working with the City of Tampa for the artwork. The dedicated transit lanes on Florida and Tampa; there is a BRT plan that will, hopefully, operate from downtown to USF with transit-only lanes in that corridor. The Tampa Heights Mobility Project has a lot of elements in it including fixing drainage in order to have bus-only lanes. It started in Pinellas County. FDOT wants to set these roads up for BRT or a premium transit option. Many people support transit but, many also oppose transit-only lanes when there is only one bus an hour or 30 minutes. PSTA has committed to running premium transit. FDOT is taking the stance that they want these projects to succeed. Noted that the way they fail is by converting the lanes too early when the premium service is not there. The roads are being set up to be ready for conversion. However, a premium transit service needs to be there.

Discussion:

The dust from the DTI construction public comment during the Policy meeting was brought up to Secretary Gwynn. The person who spoke got sick from it. Secretary Gwynn found out about that this morning. FDOT will be following up with the contractor as to why that is happening as the condition described is not supposed to. It was asked if there is screening in addition to water. The contractor is given a measure to meet. Will look at this further and address it.

The sloped walls under the underpasses open up the sidewalk but do not open up the perception of safety. Opening them all the way up is preferred and that was indicated by Commissioner Overman. It seems as though the smaller streets are not receiving the same treatments. It is important when

we receive public input to hear it. FDOT has its own communications plan. These may be different. It's important to partner and work together. On the major arterials, MLK and Hillsborough, the underpass sidewalks are going to be 30 feet wide whereas the sidewalks on the smaller streets will be 15 feet wide with enhanced lighting. It was asked that the sidewalks and flooding be addressed on Florida and Tampa Street; what would be the timeline and what would be the penalties if the dates are not met. The City of Tampa has been doing this work and it does not appear to have progressed in six months. Having that experience on these streets would be painful. The contractors have to pay when they go over time and FDOT may look into providing incentives for early completion. There is really no drainage in these areas now. FDOT partners with the city. The overall construction for the Heights Grant is about three years. The most points were given for the grant due to the resiliency measures to handle the stormwater. Heavy construction will likely be two years and expect it to begin in about a year. This project is fully funded.

A lot of concerns have been expressed at the meetings. Some of the vibrations that residents are experiencing and were concerned about were actually a combination of the DTI but also the City of Tampa Pipes Program going on at the same time in the same area.

It was noted that HART is working closely with FDOT to go through the process of dedicated bus lanes.

VII. <u>CONSENT AGENDA</u> *(Timestamp 2:20:16)*

A. **Committee Appointments**
   - LRC – Emmeth Duran, as an alternate member, by Institute of Transportation Engineers.
B. **Smart Cities Mobility Plan Update**
C. **Public Participation Plan: Measures of Effectiveness Report (2020-2021)** – reviewed by committees

Motion to approve the consent agenda from Commissioner Kemp, seconded by Commissioner Overman. Voice vote, the motion passes unanimously.

<u>ACTION ITEMS</u> *(Timestamp 2:20:37)*

A. **FY23 & FY24 Unified Planning Work Program Approval** (Amber Simmons, TPO Staff) *(Timestamp 2:20:55)*
   - Review of what the UPWP is and its purpose and the steps in the Biennial Update
   - Went over Major Planning Tasks.
     - Showed the six tasks and the new task 7 which is a Regional LRTP (shared funding)
     - Review of the budget and where funding comes from.
     - Went over the summary of FY 21 and 22 projects
     - Current DBE is at 14.5% of projects, state goal is 10.5%
     - Review of UPWP Development Schedule
     - Showed this year's partner agency requests for planning and analysis, critical path projects for FY 23 & FY 24, and other recommended projects

- Updated projects with approximate costs per the request of the CAC (I-275 Conversion Study, Phase 1)
- Reviewed projects in progress that will conclude in FY23

Presentation: FY 23 and FY 24 UPWP Adoption
Website: UPWP website

Recommended Action: Approve the FY 23 & FY 24 UPWP.

Discussion:

The Hillsborough County Truck Plan, it was asked if it is making the funded list. It is in the second column of our Critical

Councilman Maniscalco moved to approve the FY23 & FY24 UPWP, seconded by Councilman Citro. Voice vote, motion passes unanimously.

B. **TPO Apportionment Plan** (Elizabeth Watkins, TPO Staff) *(Timestamp 2:2744)*

- Review of background and requirements.
- Went over considerations – heard different concerns from the TPO Policy Committee and others.
  - Government in the Sunshine Law
  - Accountability to Residents. Analyzed 17 MPO/TPOs across the state of Florida, Hillsborough County has the least amount of elected officials making up the vote.
  - Population growth and the percentage of growth in the unincorporated county.
- Review of three Scenarios.
  - Showed breakdown of proposed votes on the TPO Board and summary table.
- Went over proposed TPO Board votes versus the 2020 census data.
- Summarized committee feedback from the TPO committees.

Presentation: Hillsborough TPO Membership Apportionment Plan
Draft: TPO Apportionment Plan Draft

Recommendation: Approve the TPO Apportionment Plan.

Discussion:

It was pointed out that 78% of MPO/TPOs similar to Hillsborough County have all elected officials. It was noted that the CAC, representing citizens, has recommended the plan. It was asked that everyone give extra thought to the Sunshine Laws and the inability to discuss topics that come to a vote on the TPO Board with agency experts. Non-voting members do not lose their ability to advise and influence the Board. The fact that Hillsborough County is an outlier in the state XXX. It was brought up that there is often a disconnect between land-use planning and transportation planning without having the entire BOCC on the TPO Board. In many jurisdictions, the municipality operates the Transit Authority. HART needs to be part of the planning and there is some hesitation about not having them on the Board. MPO/TPOs were set up by the federal government because communities were impacted by having major interstates going through the middle of them. The TPO gives the citizens a voice. The comparison was brought up with other regions in the state. It

was also noted that, currently, four out of five of the BOCC members on the TPO Board live in the City of Tampa. It was acknowledged that the citizens have the right to vote the members out if they are not representing them. The agencies were put on the TPO Board for their expertise. FDOT has a strong advisory role. The instance in Hillsborough County where the agencies are not managed by the county is rare.

It was noted in the statute that the TPO may include as part of its voting members, a member of statutory authority, an authorized planning board, an official of an agency that operates or administers a major mode of transportation, or an official of Space Florida. The other regions that have Port Authorities on their boards, those agencies are independent agencies in those counties. The Port Authority and Aviation Authority were created in 1945 by the legislature. The impact of these authorities represents the entire county. Port Tampa is the largest port in the State of Florida. They are very much responsible for transportation in the county. Their presence on the board ensures their planning and infrastructure improvements don't disparately impact the rest of the county and it is mutually beneficial. The I-4 connector is a prime example. There is a belief that there is too much emphasis on the representatives who are not elected officials. They are appointed by elected officials on the agency boards. If the members of this board do not act in a way that pleases their boards, they are held accountable. Excluding this representation removes the voice of major stakeholders in the county. It was noted that the only port represented on an MPO/TPO in the comparison list, Miami-Dade may be the only one close. Tampa Airport is the second largest in the country. This makes Hillsborough County an outlier by removing these transportation stakeholders.

It was noted that Hillsborough County is very different from the other MPO/TPOs being compared; Port Tampa Bay is expanding both in shipping and cruises; the Tampa Airport is a major US airport. Between the hours of 7A and 7P, the population of the City of Tampa doubles and are under-represented on the TPO Board.

Agency representatives are given direction from their Board of Directors on how to represent the agency and how to vote. Those Boards are made up of elected officials from the county and the city. Where the airport is concerned, 20 million travelers are represented. These travelers will not come back if they don't have good transportation experiences. There are also 17,000 employees being represented who have to get to work and back home. The sentiment is that the airport and the port are "great economic engines, you're off the Board, we don't want your vote." The airport built an automated people mover system to take cars off a congested roadway.

The agencies are supported by tax dollars. It is important that representation be on the board to keep continuity for long-range planning as elected officials won't be here. It was noted that in the land of politics, it is nice to have non-political voices once and add important perspectives. There are other boards in the county that makes important decisions about taxpayer dollars that are not made up of all elected officials such as Transportation Development and Tourism Development. It was brought up that the statute shows that it is intended to have non-elected officials on the MPO/TPO. All of the cities and counties around Florida are unique so having the Hillsborough TPO be different is not a bad thing; it reflects the county. The TPO Board is able to expand to 25 members and that would be a way to add elected officials to the TPO Board. Removing citizen voices would be unwise and does not meet the spirit of the statute.

Mr. Slater noted that he had not received direction from his board on this topic. However, he expressed that THEA reinvests 100% of its revenue back into the community, not just in roadways but in greenways, autonomous vehicle testing, and other technology testing. The objective should be to work together in a cooperative manner and an integrated manner.

It was noted that HART serves the entire county, and they are going through a transitional phase and looking at how best to utilize existing resources and attract new resources. The HART Board has engagement by elected officials and the monthly meetings are open to the public as well.

Commissioner Cohen noted that he received a letter from the Chair of the Hillsborough County Aviation Authority. It was made available to the Board and is included at the end of the minutes. It was stated that in order for there to be a change in the apportionment, there needs to be an agreement between the four municipalities, FDOT, and the Governor. Based on the discussion, the current plan does not have the support to pass and would likely not be supported by the Governor. Reservations were expressed during the Policy meeting about removing the Port Authority and the Aviation Authority. Elected officials that sit on agency boards have one vote on this board and do not have the ability to divide their vote. It was brought up that if it is the intent that more elected officials be added, that would be a compromised framework. That could be circulated to the local governments to see if there is support.

Commissioner Smith motioned to have staff take another look at the TPO Apportionment Plan and reconsider a plan that might adjust the representation of local governments based on representation while retaining the agencies; seconded by Councilman Maniscalco.

Discussion:

It was noted that the agencies are an integral part of the transportation system. The input is very valuable. It was noted that the increase in BOCC representation is based on population and not the variable population of a specific period of time or going beyond population trends versus importance.

Voice vote, motion passes unanimously.

C. **Executive Director's Report** (Cameron Clark, TPO Attorney) *(Timestamp 3:16:55)*
- Required by the MPO's agreement with the Planning Commission.
- Received numerous submittals from Board members; compiled them into an evaluation sheet that was submitted to the Board earlier. (Included after the minutes.)

Recommendation Action: To receive the evaluation.

Motion to approve from Mayor Ross; seconded by Mr. Lopano. Voice vote, motion passes unanimously.

VIII. STATUS REPORTS *(Timestamp 3:17:36)*

A. Tampa MOVES and Vision Zero Action Plan (Alana Brasier, City of Tampa) - deferred

B. **Bylaws Amendment: Code of Conduct** (Beth Alden, TPO Executive Director) *(Timestamp 3:17:44)*
- Required to be read in prior to action being taken.
- Will be brought back as part of the Consent Agenda in June.
- Would like feedback from the TPO Board.

Code: Code of Conduct of Hillsborough County City-County Planning Commission

IX. OLD & NEW BUSINESS - deferred

A. **TPO Public Hearing June 8, 2022,** beginning at 6:00 PM.

X. ADJOURNMENT – The meeting adjourned at 11:58 AM

The recording of this meeting may be viewed on YouTube: Meeting Recording

Social Media

Facebook

4/8
In a post on the Transit Now Tampa Bay Facebook page about technical issues with the Selmon Expressway beautification project
Christopher Vela:
It is important to note that after I did a half-hour report on the historic travesties of this project ALONE (no I275 and I4) the Hillsborough TPO still rolled with THEA over their expansion project.
We deserve it. Until we get we get 100% new people in leadership.

In a post on the Transit Now Tampa Bay Facebook page about increasing pedestrian deaths
Christopher Vela:
Also in 2021 out Hillsborough TPO did nothing to stop TBNEXT which is so dangerous that it would be illegal for actual pedestrians to use. But in all seriousness from that actual truth (law) local roads will be quite dangerous by the interstate's exits where the TPO's Vision Zero Hillsborough hopes that paint saves lives.
Jesus...the world we live in.
"California, Florida and Texas led the nation in the number of pedestrian traffic fatalities in the first half of last year, accounting for 1,289, or 37%, of all pedestrian deaths."

In a post on the Transit Now Tampa Bay Facebook page about the I-75 PD&E study
Christopher Vela:
In case you are wondering there are express lanes being planned on I75 in Hillsborough County.
Unlike how TBX started with the Hillsborough TPO not compelled to care about some of us urbanites, these more rural communities already get a running start.
It is all bad, but if I were FDOT, I could tell the TPO to shut it because they neglected unconditional promises of rail, sound walls, or other improvements in the inner city and more urban parts of the

Hillsborough TPO
Transportation
Planning Organization

Committee Reports

Meeting of the Intelligent Transportation System (ITS) Committee on April 14

The ITS held its election of officers. Margaret Kubilins was reaffirmed as the Chair, Brian Gentry as the Vice-Chair and Jeff Sims as the officer-at-large.

The ITS Committee approved the following action item:

- ✓ Smart Cities Mobility Plan

  TPO staff presented the vision statement and the purpose of the Smart Cities Mobility Plan. There were primarily four tasks – Existing project inventory and the production of a factsheet booklet, comparison of Tampa Bay's current deployments against the inventory and across peer metros, new ranking methodology for TIP prioritization and community outreach. Committee members discussed about the challenges including maintenance and funding investment. The committee approved the Smart Cities Mobility Plan and recommended to the TPO Board.

The ITS Committee heard status reports on the following:

- Regional ITS Architecture

  FDOT Central Office and the consultant presented a review of the FDOT Statewide and Regional ITS Architecture website which is currently being updated. The website helps the stakeholders and agencies to access the inventory of existing and planned systems across the region, the project information flows and the functional requirements. The website will be available to the public once the update is complete.

- Low-Cost Air Quality Monitoring Pilot Study

  TPO staff presented an update on the low-cost air quality monitoring pilot study that is being conducted in partnership with the USF College of Public Health, Hillsborough County EPC and FHWA. The areas identified as part of the pilot study were Sulphur Springs, VM Ybor, South Nebraska. Committee members raised question about moving to a larger project. The long-term goal was to develop methods to establish a larger community monitoring network and for them to monitor the quality of the air around them.

- FY 23 & FY 24 UPWP Preliminary Draft

  Staff presented the UPWP Preliminary Draft, with a review of the budget and a summary of the FY 21 and 22 projects. The final UPWP will be approved by the Board in May.

- Introduction to New TPO Studies

  A brief overview of the upcoming TPO projects was presented.

Meeting of the Transportation Disadvantaged Coordinating Board (TD) on April 22

The TDCB held its annual workshop seeking public engagement on the Transportation Disadvantaged Program.

The TDCB approved the following action item:

- ✓ Community Transportation Coordinator (CTC) Trip and Service Rates for 2022/2023

The TD heard status reports on the following:

- FY 23 & FY 24 UPWP Preliminary Draft
- Intro to New TPO Studies

The Executive Director of the Sunshine Line provided their bimonthly update. Sunshine Line is gearing up to provide transportation to the Tampa Heights Civic Association for their Water Safety Program for the summer as well as the HCSO Homeless initiative. They're also gearing up for the opening of three new Aging Services sites. Otherwise, they are operating at less than 50% capacity for drivers and are having significant challenges recruiting and retaining vehicle operators as a result of non-competitive wages. On-time performance is at 87.3% last month, the lowest it's been in many years. Saturday service is being phased out currently as a result of the driver shortage, and trips are being prioritized into essential and non-essential trips.

Meeting of the Bicycle Pedestrian Advisory Committee (BPAC) on April 27

The BPAC did not make recommendations on any action items due to lack of a quorum:

- Public Participation Plan: Measures of Effectiveness Report (2020-2021)
  - Committee members expressed their appreciation for the report and continued outreach.
- TPO Apportionment Plan Draft - Members had several questions on the proposal:
  - Is there an issue with the current distribution?
  - Would this put the City of Tampa at a disadvantage? (it was pointed out that County Commission Districts also include the cities)
  - Should the independent agencies be removed? Some members expressed that they provide value and expertise to the conversation.
  - Several agency staff commented that they would abstain since their agencies had not yet taken a position.

The BPAC heard status reports on the following:

- City of Tampa MOVES and Vision Zero Action Plan
- Introduction to New TPO Studies
- Live. Grow. Thrive. Tampa Comprehensive Plan Update

Livable Roadways Committee (LRC) on April 27

The LRC took the following actions:

- χ TPO Membership Apportionment Plan Draft – The LRC did not approve the staff recommendation, instead moved that the TPO Apportionment be left Status Quo.
- ✓ Public Participation Plan Measures of Effectiveness Report was approved.
- ✓ Comments on ETDM Project #14486 (US 301 from Moccasin Wallow Road to SR 674 – The LRC moved to submit the staff comments, comment from a member of the

public on behalf of the Sundance Community, and additional comments made by the committee on the topics of rural context, wildlife crossings, safety, and a request to return to the committee at the design phase.

The LRC heard status reports and updates on:

- FDOT District 7 Safety Program
- FY23 and FY24 UPWP Preliminary Draft
- Introduction to new TPO Studies
- Memo on Government in the Sunshine
- Live. Grow. Thrive. Tampa Comprehensive Plan Update

Meeting of the Technical Advisory Committee (TAC) of May 2

The TAC approved the following action items:

- ✓ FY 23 & FY 24 UPWP Approval
- ✓ Public Participation Plan: Measures of Effectiveness Report (2020-2021) - Members commented that they liked that outreach is being tracked and evaluated, and agreed that the engagement on the Non-Discrimination Plan was very effective.
- χ The TAC heard a motion to approve the Apportionment Plan as recommended but the motion failed to pass, therefore no action was taken. Comments included:
    - HCAA commented that you cannot compare Hillsborough to other MPOs because most airports are owned by the County. In examples where there is an independent authority, they have voting seats. For example, Orlando International Airport has a voting seat on the MetroPlan Board. HCAA representatives speak for the Board, not the CEO. HCAA has a unique perspective as a transportation operator and should retain a voting seat. The Port Authority agreed with HCAA, and finds the proposed plan disturbing.
    - Planning Commission, Hillsborough County, and City of Tampa representatives abstained from voting since their Boards have not taken a position.

The TAC heard status reports and announcements on:

- Transportation Improvement Program (TIP) Priorities Update: Preliminary Draft
- Live. Grow. Thrive. Tampa Comprehensive Plan Update
- HCAA is updating its Master Plan (https://www.tampaairport.com/tpa-master-plan)

Meeting of the Citizens Advisory Committee (CAC) of May 4

The CAC approved action items:

- ✓ FY 23 & FY 24 UPWP
- ✓ TPO Apportionment Plan Draft, as recommended by the Policy Committee
- ✓ Public Participation Plan: Measures of Effectiveness Report (2020-2021) – with the caveat that the report needs to acknowledge the challenges over the last 2 years in communicating with the public about the design of the Downtown Interchange.

The CAC heard status reports on:

- TIP Priorities Update: Preliminary Draft
- Live. Grow. Thrive. Tampa Comprehensive Plan Update

FDOT Tampa Bay
Florida Department of Transportation

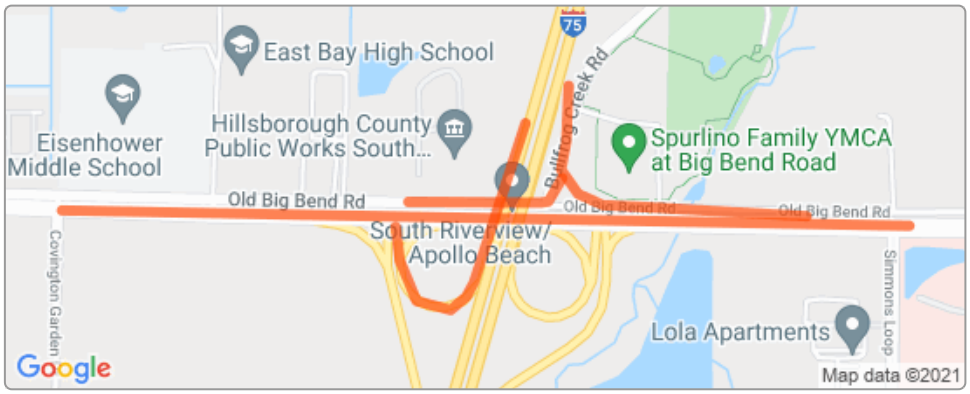
I-75 Interchange Improvements at CR 672 (Big Bend Road) Exit 246 424513-3-52-01

Project Details	
Work Type	Interchange Improvements
Phase	Construction
Limits	I-75 Interchange at CR 672 (Big Bend Rd) Exit 246
Project Start	December 6, 2021
City	Apollo Beach Riverview
County	Hillsborough
Road	Big Bend Road I-75
Construction Cost	$81.7 million
Estimated Completion	Summer 2025
Contractor	Skanska USA Civil Southeast, Inc.

Contact Information

Construction Manager
Melissa Chin
813-975-3573
Melissa.Chin@dot.state.fl.us

Media Contact
Kris Carson
813-975-6060
Kristen.Carson@dot.state.fl.us



About

Due to the rapid growth in the South County area, the Florida Department of Transportation has partnered with Hillsborough County to develop long-term solutions to help alleviate traffic congestion by reconstructing the I-75 interchange at CR 672 (Big Bend Road) Exit 246.

Improvements on this design-build project include:

- adding a new northbound I-75 entrance ramp from westbound Big Bend Road
- adding a new southbound I-75 exit ramp to westbound Big Bend Road
- increasing the storage area at the base of the northbound I-75 exit ramp by adding a left-turn lane onto westbound Big Bend Road
- extending the southbound I-75 exit ramp lane approaching Big Bend Road and adding dual right-turn lanes to westbound Big Bend Road
- adding a triple right-turn lane controlled by a signal from the southbound I-75 exit ramp to eastbound Big Bend Road
- adding signalized dual left-turn movements from westbound Big Bend Road to southbound I-75 and eastbound Big Bend Road to northbound I-75
- widening Big Bend Road between Covington Garden Drive and Simmons Loop from a 4-lane divided road to 6 lanes featuring enhanced pedestrian, bicycle, and bus facilities
- rebuilding the Old Big Bend Road and Big Bend Road bridges

Construction activities are estimated to finish in summer 2025.

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

May 13, 2022

Dear Elected Officials and Staff:

The Florida Department of Transportation (FDOT), District Seven, invites you to attend and participate in a Construction Open House for the I-75 / Big Bend Interchange Improvements Project in Hillsborough County, Florida on **June 7, 2022.**

Improvements include reconfiguring the interchange and widening Big Bend Road. (See attached fact sheet – or scan the QR code for more details). The open house will be held in two formats as described below. The material presented at both will be the same.

Virtual Tour:
Live chat with project staff between 11:00 a.m. to 6:00 p.m. You may participate virtually by visiting the project website and clicking the Open House link: https://www.fdottampabay.com/project/420/424513-3-52-01. The virtual tour will remain online after the meeting date.

In-person:
Hours: 4:30 p.m. to 7:00 p.m.
South Bay Church
13498 US-301 S Riverview, FL 33578
There will be no formal presentation; therefore, we encourage you to drop in at your convenience to view project information and talk with project staff.

For more information on this construction project, please contact Melissa Chin, P.E. FDOT Construction Project Manager, at 813-975-3573, or email: RoadWork@dot.state.fl.us

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status. Persons requiring special accommodations under the Americans with Disabilities Act to participate in this open house or persons who require translation services (free of charge) are asked to advise the agency at least seven (7) days prior to the open house by contacting: Roger Roscoe, FDOT Title VI Coordinator, at (813) 975-6411 or (800) 226-7220, or Roger.Roscoe@dot.state.fl.us. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1 (800) 955-8771 (TDD) or 1(800) 955-8770 (Voice).

Comuníquese Con Nosotros: Nos importa mucho la opinión del público sobre el proyecto. Si usted tiene preguntas o comentarios, o si simplemente desea más información, por favor comuníquese con nuestro

representante, Manuel Flores, (813) 975-4248, Manuel.Flores@dot.state.fl.us, Departamento de Transporte de Florida, 11201 North McKinley Dr., Tampa, FL 33612.

For more information about this project, please visit the following project webpage:
https://www.fdottampabay.com/project/420/424513-3-52-01

Scan the QR code below to view the project website:

Sincerely,

Gregory Deese, P.E.
Resident Engineer – District 7 CCEI Construction
Florida Department of Transportation

Beth Alden

Subject: Fact Sheet: SR 60 Median Modification & announcement of June 14 hearing
Attachments: 441661-1 SR 60 Fact Sheet_.pdf

From: Carson, Kristen <Kristen.Carson@dot.state.fl.us>
Sent: Monday, May 16, 2022 2:45 PM
Subject: Virtual Public Hearing/Meeting (VPHM) for Proposed Median Modification

Subject: Virtual Public Hearing/Meeting (VPHM) for Proposed Median Modification
SR 60 from Clarence Gordon Jr. Road to the Polk County Line (S. County Line Road)
Hillsborough County, Florida
Financial Project Number (FPN): 441661-1-52-01

Good afternoon. The Florida Department of Transportation (FDOT), District Seven, invites you to attend and participate in a Virtual Public Hearing/Meeting (VPHM) for a proposed median modification on State Road (SR) 60 from Clarence Gordon Jr. Road to the Polk County Line (S. County Line Road) in Plant City, Florida, Financial Project Number (FPN): 441661-1-52-01. This VPHM will be held on **June 14, 2022,** at **5:30 p.m.**

To allow for maximum participation, the public meeting will be held in two formats including virtually over the internet and at an in-person drive-thru location. Information presented will be identical at all options.

The meeting will start at **5:30 p.m.** and include a presentation. After the presentation has concluded, there will be an opportunity to ask questions and provide comments that will be included in the official public meeting record.

Virtual/Online: Presentation will begin at 5:30 p.m.
The presentation will be played at 5:30 p.m. After comments are received, the presentation will be replayed. Please follow this link to register and access the virtual meeting: https://bit.ly/3Ey6f7h

In-person drive-thru location:
Hours: Drive-thru will open at 5:30 p.m. and remain open until 6:30 p.m.
Trapnell Elementary School
1605 W. Trapnell Road
Plant City, FL 33566 (Parking Area)

Drive-thru attendees will be directed into a clearly identified parking lot, receive project literature, and view the project presentation. Attendees will be asked to remain in their vehicle while attending the meeting. You will have the opportunity to provide written or verbal comments.

This (VPHM) is conducted to afford affected property and business owners, interested persons and organizations the opportunity to provide comments to FDOT regarding the proposed improvements on SR 60 from Clarence Gordon Jr. Road to the Polk County Line in Hillsborough County.

The only median affected in this project is at Horton Road. Motorists will need to turn right when exiting Horton Road to SR 60 and make a U-turn to travel in the opposite direction.

This VPHM is held pursuant to Chapters 120, 335.18 and 335.199, Florida Statutes. FDOT will receive verbal/written comments at the public meeting drive-thru location and online from registered webinar participants. Additionally, written or emailed comments may also be submitted following the meeting to Charlie.Xie@dot.state.fl.us or mailed to Charlie Xie, Design Project Manager, Florida Department of Transportation, 11201 N. McKinley Dr., MS 7-600, Tampa, Florida 33612 or by phone at (813) 975-6287. Comments received or postmarked by June 24, 2022, will be included in the official meeting record.

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status. Persons requiring special accommodations under the Americans with Disabilities Act to participate in this open house or persons who require translation services (free of charge) are asked to advise the agency at least seven (7) days prior to the open house by contacting: Roger Roscoe, FDOT Title VI Coordinator, at (813) 975-6411 or (800) 226-7220, or Roger.Roscoe@dot.state.fl.us. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, (800) 955-8771 (TDD) or (800) 955-8770 (Voice).

Comuníquese Con Nosotros: Nos importa mucho la opinión del público sobre el proyecto. Si usted tiene preguntas o comentarios, o si simplemente desea más información, por favor comuníquese con nuestro representante, Manuel Flores, (813) 975-4248, Manuel.Flores@dot.state.fl.us, Departamento de Transporte de Florida, 11201 North McKinley Drive, Tampa, FL 33612.

For more information about this project, please visit the project webpage at:
https://www.fdottampabay.com/project/805/441661-1-52-01

Kris Carson

Florida Department of Transportation
District Seven Communications Manager
11201 N. McKinley Drive
Tampa, FL 33612-6456
(813) 975-6202, 1-800-226-7220
Kristen.Carson@dot.state.fl.us
http://www.dot.state.fl.us/
http://www.fdottampabay.com/

FDOT Tampa Bay
Florida Department of Transportation

SR 60 Median Modification and Repaving from Clarence Gordon Jr. Rd to Polk County Line

441661-1-52-01

Project Details

Work Type	Median Improvements and Repaving
Phase	Design
Limits	from Clarence Gordon Jr. Roadd to the Polk County Line
Length	3.4 miles
City	Hopewell Plant City
County	Hillsborough
Road	SR 60
Design Cost	$1.5 million

Contact Information

Design Manager
Charlie Xie
813-975-6287
Charlie.Xie@dot.state.fl.us

Media Contact
Kris Carson
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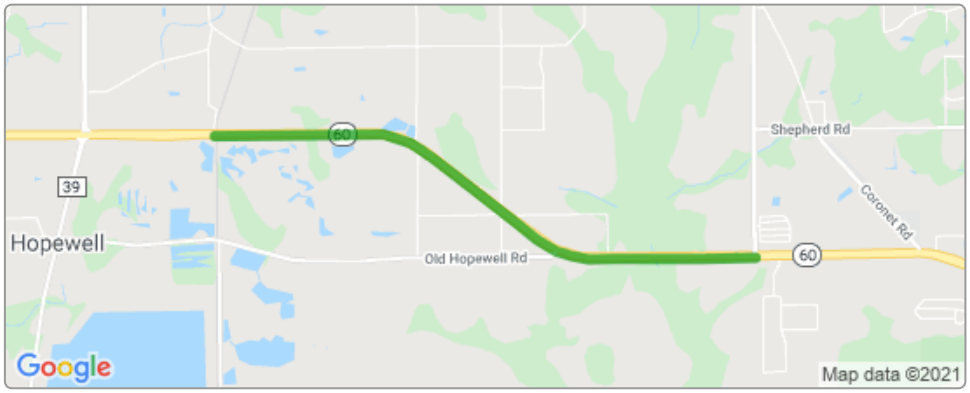

About

This project is proposing a median modification to State Road 60 at Horton Road in Plant City.

The project will also repave SR 60 between Clarence Gordon Jr. Road and the Polk County line.

In addition to repaving the road, sidewalks will be added.

Design activities are currently underway. Construction is anticipated to begin in late 2023.

Asphalt Art Safety Study

Historical Crash Analysis and Observational Behavior Assessment at Asphalt Art Sites

April 2022

Bloomberg Philanthropies

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CANDY CAER'S
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Executive Summary

Transportation infrastructure is perhaps the most visible aspect of a city's public realm—the sidewalks and roadways we depend on daily are often as recognizable as the buildings, destinations, and people within it. As cities transform to meet evolving needs of the future, there is an increasing opportunity for streets to not only be safe and efficient, but a unique and inspiring part of the urban experience. Among other strategies to achieve that goal, public art projects coupled with improvements to transportation infrastructure, often known as "asphalt art," offer many benefits. They can create safer, more desirable streets and public spaces. They are typically inexpensive and quickly implementable, while helping cities test long-term roadway redesigns. And they help local governments engage with residents to reshape their communities.

These projects, including intersection murals, crosswalk art, and painted plazas or sidewalk extensions, have existed for years and are growing in popularity in communities across the world. Though asphalt art projects frequently include specific roadway safety improvements, the art itself is often also intended to improve safety by increasing visibility of pedestrian spaces and crosswalks, promoting a more walkable public realm, and encouraging drivers to slow down and be more alert for pedestrians and cyclists, the most vulnerable users of the road.

There has been considerable public feedback, anecdotal evidence, and analyses of individual locations indicating that asphalt art can have these traffic-calming benefits and encourage safer behavior. However, despite broad support from people who use and design streets, art within the public roadway network has faced regulatory hurdles in the United States and elsewhere because of concerns about compliance with current design standards and guidance that governs roadway markings. These concerns have persisted in the absence of much rigorous evaluation or published literature on safety performance of asphalt art projects.

This study was conducted to address the need for impact analysis by comparing crash rates and real-time behavior of pedestrians and motorists at an array of asphalt art sites before and after the projects were installed. There are two main components to the study: first is a Historical Crash Analysis that compares crash data prior to and after the introduction of asphalt art at 17 diverse study sites with at least two years of data. The second is an Observational Behavior Assessment that compares before and after video footage of motorist and pedestrian behavior at five U.S. locations with asphalt art projects installed in 2021 as part of the Bloomberg Philanthropies' Asphalt Art Initiative. **The analysis found significantly improved safety performance across a variety of measures during periods when asphalt art was installed.**

Comparing the average of crash rates for before-after analysis periods, results from the Historical Crash Analysis include:

- 50% decrease in the rate of crashes involving pedestrians or other vulnerable road users
- 37% decrease in the rate of crashes leading to injuries
- 17% decrease in the total crash rate

Similarly, the Observational Behavior Assessment indicates:

- 25% decrease in pedestrian crossings involving a conflict with drivers
- 27% increase in frequency of drivers immediately yielding to pedestrians with the right of way
- 38% decrease in pedestrians crossing against the walk signal

The promising findings from this study will inform ongoing discussions on how to revise U.S. roadway engineering guidance to improve safety for the most vulnerable road users. The study also provides data-driven evidence cities can use to make the case for their own arts-driven transportation projects.

The following report details the background, methodology, and results of the Historical Crash Analysis and the Behavioral Observation Assessment.

1. Introduction

There is arguably no more important goal for the transportation profession than ensuring safe travel for everyone on the road, especially pedestrians, cyclists, and other vulnerable road users. In recent years, though, this goal has proven elusive. According to the National Highway Traffic Safety Administration (NHTSA), in 2020, a total of 38,824 people died in motor vehicle crashes in the U.S., the most since 2007 and an increase of 6.8% over 2019.[1] Considering an 11% reduction in vehicle miles traveled (VMT) in 2020 during the pandemic, the fatality rate adjusted for miles traveled increased by 21% and the adjusted pedestrian fatality rate increased by an unprecedented 21%. Clearly, innovative, proven street design tactics need to be more broadly embraced in order to improve safety and mobility on our roadways.

Cities across the globe have been installing asphalt art treatments at intersections and pedestrian crossings for some time now with a goal of improving safety and the quality of life for all roadway users. Such projects have been used in a variety of applications, including within the crosswalk, within the center of an intersection, or in place of or in addition to traditional roadway features such as islands or curb extensions. The art is intended to create a highly visible crossing and suggest a walkable, active, shared use environment. Additionally, art in the crosswalk or at curb extensions makes the pedestrian crossing location more conspicuous to drivers.

However, some in the transportation community find that such projects on portions of roads open to motor vehicles are typically not compliant with official interpretations of the 2009 version of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), which provides standards and guidance for markings on public roadways in the United States. This interpretation of the standard—which pre-dates the availability of modern colored pavement materials—has limited the number

[1] National Highway Traffic Safety Administration 2020 Annual Crash Data

of communities who can, as a practical matter, use asphalt art in crosswalks and other parts of the street. Recently, such interpretations have been challenged by organizations like the National Association of City Transportation Officials (NACTO) and individual public agencies seeking to improve roadway safety by focusing more on the most vulnerable road users, and less on the rapid movement of motor vehicles on city streets. Both NACTO and the Institute of Traffic Engineers (ITE) have proposed that asphalt art in crosswalks be permitted in the forthcoming revision to the MUTCD; however, the status of asphalt art in the ongoing revisions will likely not be known until 2023.

Given this divide between existing policy and the growing movement of practitioners and community residents who see the potential benefit of asphalt art, some local authorities have been willing to approve asphalt art projects while those in other jurisdictions have been more reluctant to do so. The resulting patchwork approach makes approval processes difficult for community organizations seeking to install asphalt art projects and leads to time-consuming, redundant efforts by local engineers seeking to assess such proposals. This study was designed to address this need and provide a quantitative assessment of multiple asphalt art projects to determine their impact on roadway safety.

1.1 Study Goals and Objectives

The goal of this study is to assess the effectiveness of asphalt art as a safety improvement through quantification and analysis of crash and behavior performance metrics before and after installation at study sites. There are two independent components to the study:

- **Historical Crash Analysis** – Site characteristics, traffic volumes, and crash data were obtained for 17 asphalt art sites in five states (seven unsignalized intersections, seven signalized intersections and three mid-block crossings). A before-after comparison group study design was used to evaluate the safety effectiveness of the projects.
- **Observational Behavior Assessment** – Performance metrics were developed for pedestrian and driver behavior and recordings were assessed to identify occurrences of the behavior during before and after comparison periods. This methodology was applied to five asphalt art intersection locations (two signalized and three unsignalized).

The objective of the study is to quantify the change in the following metrics for before and after comparison periods:

- Crash Rates
  - Total Crashes
  - Vulnerable user crashes
  - Fatal and injury crashes
- Driver and Pedestrian Behavior Metrics
  - Pedestrian-Vehicle conflicts with crash potential (near-miss)
  - Driver yielding/stopping behavior
  - Compliance with traffic control devices

These components were combined because crash rates should not be used as a lone factor in determining the safety effectiveness of roadway treatments, as crashes often have numerous contributing factors. By also assessing quantifiable behavioral metrics such as rate of pedestrian-vehicle conflicts and rates of drivers yielding to pedestrians, the intention is for the study to provide a more holistic measure of the effectiveness of treatments at installation sites.

1.2 Literature Review

In addition to the analysis itself, a literature review was performed and interviews with transportation officials from over three dozen cities were conducted, inquiring about their experience with asphalt art projects related to safety. Aside from a small number of internal studies generated by municipal staff, the study team found no all-encompassing analysis that created a standardized set of metrics by which to compare safety across different asphalt art improvement types, facility types, settings, and geographic regions, or that considered the long-term safety impacts of asphalt art, further demonstrating the need for the analysis in this document. Findings from the literature review and interviews are summarized in Appendix A.

2. Historical Crash Analysis

2.1. Background and Scope

To quantify the safety performance of a site, road safety practitioners use metrics called crash modification factors (CMF). CMFs are multiplicative factors used to compute the expected number of crashes after implementing a given countermeasure or roadway modification at a specific site. FHWA has developed a living database called the CMF Clearinghouse, which includes a list of recognized CMFs and provides references to studies from which they were developed. CMFs listed in the CMF Clearinghouse are developed as a product of robust published research studies. CMFs included are rated based on the thoroughness of the associated research study, which is predicated on criteria such as study design, sample size, statistical methodology, statistical significance, etc.

While the intent of this historical crash analysis is not to develop a CMF (as it lacks the scale and complexity of FHWA-reviewed research studies), elements of research studies used to develop CMFs were used as a model for this analysis. Similar to FHWA research studies, the goal of this study is to observe and compare long-term crash trends over a range of sites with similar characteristics. In addition to comparing crash quantity/frequency, trends in crash attributes and contributors such as severity, vulnerable user involvement, lighting condition, and crash type were also assessed.

2.2. Crash Data Sources

Many states and cities actively maintain open-source crash databases with historical crash data available at differing levels of granularity and comprehensiveness. While in certain states/jurisdictions, comprehensive data is relatively easy to obtain, others do not allow the public to search for crash data at a single site, only by municipality or neighborhood. Additionally, some public databases only have crash data available for a limited number of years, often excluding the current and most recent complete year (for this study 2020 and 2021) and/or data older than five years.

Further, while a range of roadway data (volume, speed, multimodal, user behavior) is also becoming more widely available and easier to obtain, it is usually not granular enough for quantifying performance at a specific site without dedicated, often costly, monitoring programs.

This lack of comprehensive crash and road user behavior data ultimately impacted both the study site selection and the methodology itself. A list of crash data sources for each study site including years of data obtained is included in the Appendix B.

2.3. Site Selection Criteria

While asphalt art sites are prevalent throughout the country, the study team sought the most rigorous understanding of asphalt art impacts and initially reviewed 150 locations. Of those, 17 sites were selected that met all of the below criteria while offering a diverse array of project types, geographic locations, and neighborhood contexts.

- Known installation dates and dates of deterioration/repainting within 3 months (confirmed through NearMap or Google Maps historical imagery)
- Facility type is a marked mid-block crossing, stop-controlled intersection, or signalized intersection within (or formerly within) public ROW and open to vehicle traffic (excludes art in driveways, trails, approaches to controlled access highways, private developments, etc.)
- State or municipality has publicly available historical crash data through an online resource or open-source data portal
- Historical crash data available on a location-based scale (i.e., more than just county-wide or municipal-wide data)
- At least 12 months of pre- and post-implementation ("before" and "after") crash data available (as many states delay crash data for the current and previous year or only keep recent crash records for the last 5 years, many recently implemented asphalt art sites or those implemented longer than 6 years ago did not have 12 months of data)
- Robust crash data including (at a minimum) crash date, time of day, severity, vulnerable user involvement, lighting condition, crash type/circumstances

2.4. Summary of Study Sites Selected

The 17 sites selected for this study are included in Table 1 below. Sites from five states were included in high-density urban (central business district, downtown, or mixed-use areas), medium/low density urban (mostly residential), and suburban settings. Sites included mid-block crossings, stop-controlled intersections, and signalized intersections. Tables 2–4 below include a disaggregation of the 17 study sites by state, region, setting, and facility type.

Table 1: **Study Site Location Information**

#	City	State	Intersection	Site Setting	Facility Type
1	St Petersburg	FL	Central Ave & 5th St	Urban Core	Intersection-Signal
2	Miami	FL	Northeast 98th St & Northeast 2nd Ave	Neighborhood Commercial	Mid-Block
3	Ft Lauderdale	FL	Terramar St & Breakers Ave	Neighborhood Residential	Intersection-Stop
4	Ft Lauderdale	FL	Riomore St & Breakers Ave	Neighborhood Residential	Intersection-Stop
5	Pinecrest	FL	Killian Dr & SW 67th Ave	Suburban	Intersection-Signal
6	Pinecrest	FL	Killian Dr & SW 62nd Ave	Suburban	Intersection-Stop
7	Atlanta	GA	Piedmont Ave & 10th St	Urban Core	Intersection-Signal
8	Decatur	GA	Ponce de Leon Ave & Fairview Ave	Neighborhood Residential	Intersection-Stop
9	Decatur	GA	Ponce de Leon Ave & Clairemont Ave	Urban Core	Intersection-Signal
10	Decatur	GA	Ponce de Leon Ave & E Court Square	Urban Core	Mid-Block
11	Cambridge	MA	Massachusetts Avenue & Inman Street	Urban Core	Intersection-Signal
12	Rahway	NJ	E Cherry St & Irving St	Neighborhood Residential	Intersection-Stop
13	Maplewood	NJ	Valley St & Oakview Ave	Suburban	Intersection-Signal
14	NYC (Brooklyn)	NY	Hooper St & Division Ave	Urban Core	Intersection-Stop
15	NYC (Manhattan)	NY	7th Ave & Christopher St	Urban Core	Intersection-Signal
16	Tampa	FL	N River Blvd & W Louisiana Ave	Suburban	Intersection-Stop
17	New Brunswick	NJ	Livingston Ave	Urban Core	Mid-Block

Table 2: **Study Sites by Region**

Region	#	%
Northeast	6	35%
Southeast	11	65%
TOTAL	**17**	**100%**

Table 3: **Study Sites by Setting**

Setting	#	%
Urban Core	8	47%
Neighborhood Residential/Commercial	5	29%
Suburban	4	24%
TOTAL	**17**	**100%**

Table 4: **Study Sites by Facility Type**

Facility Type	#	%
Intersection (Signal Controlled)	7	41%
Intersection (Stop Controlled)	7	41%
Mid-Block	3	18%
TOTAL	**17**	**100%**

2.5. Improvements at Study Sites

Asphalt art sites included in the study were classified based on type of improvement. Improvements related directly to installation of art include crosswalk art, intersection art serving a functional traffic control/calming purpose and meeting the definition of a traffic control device or traffic calming treatment device (e.g., curb extension, painted chicane, incorporation of traffic control elements), and roadway art serving only as an aesthetic improvement and not meeting the definition of a traffic control device (e.g., within the center of an intersection or along an approach). At some sites, in addition to asphalt art, other roadway/roadside improvements were implemented at the same time (e.g., raised crosswalks, pedestrian signal improvements, traffic control device modifications). Table 5 provides a matrix of improvements at each study site. Pre- and post-implementation aerial photos and links to locations in Google Maps are provided in Appendix C.

Table 5: **Site Locations by Improvement Type**

#	City	State	Crosswalk Art	Roadway Art (Center of intersection or intersection approach)	Other Improvements/Notes
1	St Petersburg	FL		✓	
2	Miami	FL		✓	
3	Ft Lauderdale	FL	✓	✓	Sidewalk improvements
4	Ft Lauderdale	FL	✓	✓	Sidewalk improvements
5	Pinecrest	FL		✓	
6	Pinecrest	FL		✓	
7	Atlanta	GA	✓		Rapid development, nearby bike network expansion, bike & pedestrian volume growth
8	Decatur	GA	✓		Raised crosswalks
9	Decatur	GA	✓		Bollards/sidewalk improvements
10	Decatur	GA	✓		Raised crosswalks
11	Cambridge	MA	✓		
12	Rahway	NJ	✓		
13	Maplewood	NJ	✓		
14	NYC (Brooklyn)	NY		✓	Restricted turning movement, intersection leg closure
15	NYC (Manhattan)	NY	✓		
16	Tampa	FL		✓	
17	New Brunswick	NJ	✓		Art within marked parking spaces
COMBINED SITES		#	11	8	8
		%	65%	47%	29%

2.6. Historical Crash Data Analysis Methodology

Historical crash data was obtained from state and municipal transportation agencies for each of the 17 study sites. As mentioned above, sites were selected based on a set of criteria identified to support a sound analysis methodology. In many jurisdictions, there are limitations on data available through open-source data portals. This required extracting data for thousands of crashes, and then manually parsing data to obtain the desired datasets at individual locations.

NearMap, an online resource for regularly updated historical aerial imagery, was used to obtain art installation dates as interviews with each municipality were not conducted. Using this imagery, the last confirmed date of the condition prior to asphalt art implementation, date of art installation, and dates of deterioration/repainting/removal were obtained. Months between the confirmed prior condition and implementation and months after art had deteriorated beyond recognition were excluded from both analysis periods. At some locations, the exact date(s) of installation are known and were used when available.

To account for differences in sites with different analysis periods, crash rates (crashes/year) were used as a metric instead of raw number of crashes. The average pre-implementation/before period for all sites was 48.2 months while the post-implementation/after period averaged 32.9 months. Analysis periods for each site are presented in Table 6 on page 21.

The combined pre- and post-implementation analysis periods for the 17 study sites included a total of 390 reported crash records. Crash records were first reviewed and analyzed for all 17 sites combined in the following categories: total reported crashes, crashes involving vulnerable users (e.g., bicyclists, pedestrians, scooter users), crashes resulting in an injury, crash type, contributing circumstance, and time of day/lighting condition. Contributing circumstances and crash types were not available for every site and breakdown of crash types were summarized for combined sites with that information available. Lighting condition data was incomplete for many states and varied widely from state to state, resulting in inclusive data that was not included in the analysis.

Table 6: **Analysis Periods**

#	City	State	Pre-Implementation "Before" (Months)	Post-Implementation "After" (Months)	Implementation Year
1	St Petersburg	FL	52	39	2016
2	Miami	FL	54	25	2017
3	Ft Lauderdale	FL	49	42	2016
4	Ft Lauderdale	FL	49	42	2016
5	Pinecrest	FL	59	14	2018
6	Pinecrest	FL	59	14	2018
7	Atlanta	GA	54	42	2017
8	Decatur	GA	47	46	2016
9	Decatur	GA	48	47	2017
10	Decatur	GA	48	47	2017
11	Cambridge	MA	60	28	2016
12	Rahway	NJ	39	18	2019
13	Maplewood	NJ	40	31	2018
14	NYC (Brooklyn)	NY	30	35	2018
15	NYC (Manhattan)	NY	16	42	2017
16	Tampa	FL	60	32	2017
17	New Brunswick	NJ	57	16	2019
AVERAGE			48.3	32.9	-

Crash rate metrics for combined study sites were calculated using two separate methods. The average of crash rates is the average of the individual crash rate values of each site within an analysis period and is calculated by dividing the sum of crash rates for each site by the quantity of sites. The average rate is the aggregated crash rate of all sites/analysis periods and is calculated by dividing the total number crashes that occurred divided by the total amount of time analyzed. It should be noted that several after periods overlapped with periods of reduced volumes due to the COVID-19 pandemic.

2.7. Historical Crash Analysis Results

Comparisons of crash types are presented in the following tables and further detailed by site in Appendix D. The percent differences between analysis periods were calculated as the difference in crash rates of the after and before period divided by the crash rate of the before period. Positive values for percent difference between the crash rates in the before and after condition indicate a reduction in the crash rate, while negative values indicate an increase.

Study Sites - Combined

Results indicate that, at the 17 study sites, the average of crash rates was 17.3% lower in the analysis periods after art installation than the average of crash rates for the before analysis periods. Similarly, the average of vulnerable user and injury crash rates were 49.6% and 36.5% lower in analysis periods after art was installed.

It should be noted that sites with a comparatively large number of crashes in both the before and after analysis periods heavily influenced averages of crash rates. As such, the average of crash rates was calculated for the entire 17 site sample and separately, excluding the sites with the highest and lowest number of total crashes statistical outliers. For this study, Site 7 (Atlanta, GA) experienced the highest number of crashes (70 and 77 crashes in before and after periods respectively) and both Site 16 (Tampa, FL) and Site 17 (New Brunswick, NJ) had no crash occurrences either analysis period. For purposes of performing calculations excluding statistical outliers, Site 17 was excluded as opposed to Site 16 because the before and after analysis periods were longer.

The following points summarize key findings from an analysis of crashes of all types (total crashes), crashes involving vulnerable users, and crashes involving an injury, holistically for all 17 study sites combined. Reported crashes, analysis periods intervals, and crash rates for before and after periods are presented by site and as an average in Tables 7–9 below. Table 10 presents the average (aggregate) crash rate of crashes and analysis periods of the 17 study sites combined.

Table 7: **Total Crash Rate by Site and Average of Rates (Crashes/Year)**

#	City	State	Analysis Period (Months)		Total Crash Quantity		Total Crash Rate (Crashes/Year)		
			Before	After	Before	After	Before	After	Difference
1	St Petersburg	FL	52	39	18	13	4.2	4.0	-4%
2	Miami	FL	54	25	3	0	0.7	0.0	-100%
3	Ft Lauderdale	FL	49	42	2	1	0.5	0.3	-42%
4	Ft Lauderdale	FL	49	42	4	3	1.0	0.9	-13%
5	Pinecrest	FL	59	14	28	1	5.7	0.9	-85%
6	Pinecrest	FL	59	14	3	0	0.6	0.0	-100%
7	Atlanta	GA	54	42	70	77	15.6	22.0	+41%
8	Decatur	GA	47	46	11	4	2.8	1.0	-63%
9	Decatur	GA	48	47	12	15	3.0	3.8	+28%
10	Decatur	GA	48	47	11	8	2.8	2.0	-26%
11	Cambridge	MA	60	28	31	7	6.2	3.0	-52%
12	Rahway	NJ	39	18	6	2	1.8	1.3	-28%
13	Maplewood	NJ	40	31	17	9	5.1	3.5	-32%
14	NYC (Brooklyn)	NY	30	35	12	12	4.8	4.1	-14%
15	NYC (Manhattan)	NY	16	42	5	5	3.8	1.4	-62%
16	Tampa	FL	60	32	0	0	0.0	0.0	0%
17	New Brunswick	NJ	57	16	0	0	0.0	0.0	0%
AVERAGE SITE			48.3	32.9	13.7	9.2			
AVERAGE OF TOTAL CRASH RATES (ALL SITES)							3.44	2.84	-17.3%
AVERAGE OF TOTAL CRASH RATES (EXCLUDING HIGH AND LOW SITES)							2.86	1.75	-38.7%

Table 8: **Vulnerable User Crash Rate by Site and Average of Rates (Crashes/Year)**

#	City	State	Analysis Period (Months)		Vulnerable User Crash Quantity		Vulnerable User Crash Rate (Crashes/Year)		
			Before	After	Before	After	Before	After	Difference
1	St Petersburg	FL	52	39	1	0	0.00	0.00	-100%
2	Miami	FL	54	25	0	0	0.00	0.00	0%
3	Ft Lauderdale	FL	49	42	0	0	0.00	0.00	0%
4	Ft Lauderdale	FL	49	42	0	0	0.00	0.00	0%
5	Pinecrest	FL	59	14	0	0	0.00	0.00	0%
6	Pinecrest	FL	59	14	0	0	0.00	0.00	0%
7	Atlanta	GA	54	42	4	3	0.89	0.86	-4%
8	Decatur	GA	47	46	0	0	0.00	0.00	0%
9	Decatur	GA	48	47	0	0	0.00	0.00	0%
10	Decatur	GA	48	47	0	0	0.00	0.00	0%
11	Cambridge	MA	60	28	1	0	0.20	0.00	-100%
12	Rahway	NJ	39	18	0	1	0.00	0.67	0%
13	Maplewood	NJ	40	31	0	1	0.00	0.39	0%
14	NYC (Brooklyn)	NY	30	35	6	1	2.40	0.34	-86%
15	NYC (Manhattan)	NY	16	42	1	0	0.75	0.00	-100%
16	Tampa	FL	60	32	0	0	0.00	0.00	0%
17	New Brunswick	NJ	57	16	0	0	0.00	0.00	0%
AVERAGE SITE			48.3	32.9	13.7	9.2			
AVERAGE OF VULNERABLE USER CRASH RATES (ALL SITES)							0.26	0.13	-49.6%
AVERAGE OF VULNERABLE USER CRASH RATE (EXCLUDING HIGH AND LOW SITES)							0.24	0.09	-61.0%

Table 9: **Injury Crash Rate by Site and Average of Rates (Crashes/Year)**

#	City	State	Analysis Period (Months)		Injury Crash Quantity		Injury Crash Rate (Crashes/Year)		
			Before	After	Before	After	Before	After	Difference
1	St Petersburg	FL	52	39	5	0	1.15	0.00	-100%
2	Miami	FL	54	25	1	0	0.22	0.00	-100%
3	Ft Lauderdale	FL	49	42	0	0	0.00	0.00	0%
4	Ft Lauderdale	FL	49	42	6	0	1.47	0.00	-100%
5	Pinecrest	FL	59	14	3	1	0.61	0.86	+40%
6	Pinecrest	FL	59	14	0	0	0.00	0.00	0%
7	Atlanta	GA	54	42	14	9	3.11	2.57	-17%
8	Decatur	GA	47	46	4	2	1.02	0.52	-49%
9	Decatur	GA	48	47	1	4	0.25	1.02	+309%
10	Decatur	GA	48	47	1	1	0.25	0.26	+2%
11	Cambridge	MA	60	28	14	0	2.80	0.00	-100%
12	Rahway	NJ	39	18	0	1	0.00	0.67	0%
13	Maplewood	NJ	40	31	6	5	1.80	1.94	+8%
14	NYC (Brooklyn)	NY	30	35	4	5	1.60	1.71	+7%
15	NYC (Manhattan)	NY	16	42	1	0	0.75	0.00	-100%
16	Tampa	FL	60	32	0	0	0.00	0.00	0%
17	New Brunswick	NJ	57	16	0	0	0.00	0.00	0%
AVERAGE SITE			48.3	32.9	13.7	9.2			
AVERAGE OF INJURY CRASH RATES (ALL SITES)							0.88	0.56	-36.5%
AVERAGE OF INJURY CRASH RATE (EXCLUDING HIGH AND LOW SITES)							0.80	0.46	-41.5%

Table 10: **Average (Aggregate) Crash Rate (Crashes/Year)**

Sites	Crash Type	Analysis Period (Months)		Quantity		Crash Rate (Crashes/Year)		
		Before	After	Before	After	Before	After	Difference
Average Crash Rate (All Sites Aggregated)	**Total**	**821**	**560**	**233**	**157**	**3.41**	**3.36**	**-1.2%**
	Vulnerable Users	821	560	13	6	0.7	0.0	-32.3%
	Injury	821	560	60	28	0.5	0.3	-31.6%
Average Crash Rate (Aggregated, Excluding High and Low sites)	**Total**	**710**	**502**	**163**	**80**	**2.75**	**1.91**	**-30.6%**
	Vulnerable Users	710	502	9	3	0.15	0.07	-52.9%
	Injury	710	502	46	19	0.78	0.45	-41.6%

- Using the average of rates method, between the before and after analysis periods, the average of total, vulnerable user, and injury crash rates decreased by 17.3%, 49.6%, 36.5%, respectively. Excluding the statistical outliers (Sites 7 and 17), the average of total, vulnerable user, and injury crash rates decreased by 38.7%, 61.0%, 41.5%, respectively.
- Using the average (aggregate) rate method, between the before and after analysis periods, the average (aggregate) total, vulnerable user, and injury crash rates decreased by 1.2%, 32.3%, and 31.6%, respectively. Excluding the statistical outliers (Sites 7 and 17), the average (aggregate) total, vulnerable user, and injury crash rates decreased by 30.6%, 52.9%, and 41.6%, respectively.
- Change in crash rates at sites ranged from a decrease of 100% (two FL locations) to an increase of 41% (Atlanta, GA).
- 13 (76%) sites had a decreased total crash rate, 2 (12%) had an increased total crash rate, 2 (12%) had no crashes in either period.
- No crashes resulted in a fatality during before or after analysis periods at each of the 17 study sites.
- No crashes were reported during one or both analysis periods at 4 (24%) sites and both analysis periods at 2 (12%) sites.
- No vulnerable user crashes were reported during one or both analysis periods at 15 (88%) sites and both analysis period at 10 (59%) sites.
- No injury crashes were reported during one or both analysis periods at 10 (59%) sites and both analysis period at 4 (24%) sites.
- Crashes at one site (Atlanta, GA) accounted for 38% of total crashes (30% in the before period, 49% in the after period).

Study Sites – Disaggregated by Site Characteristics

A disaggregate analysis was completed to determine if certain types of asphalt art may be more effective or if art may be more effective under specific conditions. Tables 11–14 below summarize trends for total, vulnerable user, and injury crash rates for study sites broken down by geographic region and site setting.

2.8. Discussion of Historical Crash Analysis Results

On the basis of a before-after historical crash analysis of 17 asphalt art study sites, implementation of asphalt art appears to have a positive impact on the rate of crashes of all types. The average of total, vulnerable user, and injury crash rates for the combined study sites were reduced by 17%, 50%, and 37% respectively after installation of asphalt art. While the average (aggregate) rate also decreased in the after period. The trend between presence of asphalt art and reduced crash rates was consistent across sites with a variety of roadway settings, traffic control types, and art improvement type. The results are likely due to the improved conspicuity of the intersection and roadway user movements. It should be noted that at several locations, after analysis periods overlapped with the COVID-19 pandemic, when injury crash rates were elevated nationwide.

The total crash rate decreased or remained at 0 in the after analysis period compared to the before period at all sites, except Piedmont Avenue & 10th Street in Atlanta, GA (+41%) and Ponce de Leon Avenue & Clairemont Avenue in Decatur, GA (+28%) (both signalized intersections). The Piedmont Avenue & 10th Street site is located in the rapidly growing Midtown area of Atlanta and accounted for 38% of the total crashes occurring at all sites. Despite increased total crash rate after art was installed, the intersection experienced a 17% decrease in the injury crash rate (crashes/year) and a 4% decrease in vulnerable user crash rate—two important and widely utilized performance indicators. The project could be considered successful on the basis of this decrease in the injury crash rate and vulnerable user crash rate (which typically result in an injury, if reported).

Additionally, according to the City of Atlanta, rapid redevelopment of immediate area surrounding the intersection near the time of the art installation, resulted in a nearly three-fold increase in bike activity (without bike improvements at the intersection itself), an 18% increase in motor vehicle volumes on Piedmont Street, and a

Table 11: **Average (Aggregated) Total, Vulnerable User, and Injury Crash Rates by Geographic Region**

Region	#	Total Crash Rate (Crashes/Year)			Vulnerable User Crash Rate (Crashes/Year)			Injury Crash Rate (Crashes/Year)		
		Before	After	Difference	Before	After	Difference	Before	After	Difference
Northeast	6	3.52	2.47	-30%	0.40	0.21	-47%	1.24	0.78	-37%
Southeast	11	3.36	3.75	+12%	0.10	0.09	-11%	0.73	0.52	-28%
Total	**17**	**3.41**	**3.36**	**-1.2%**	**0.19**	**0.13**	**-32.3%**	**0.88**	**0.60**	**-31.6%**

Table 12: **Average (Aggregated) Total, Vulnerable User, and Injury Crash Rates by Site Setting**

Setting	#	Total Crash Rate (Crashes/Year)			Vulnerable User Crash Rate (Crashes/Year)			Injury Crash Rate (Crashes/Year)		
		Before	After	Difference	Before	After	Difference	Before	After	Difference
Urban Core	7	2.30	1.01	-56%	0.04	0.06	+48%	1.01	0.18	-82%
Urban Residential	6	5.04	5.82	+16%	0.47	0.18	-62%	1.02	0.85	-17%
Suburban	4	2.64	1.32	-50%	0.00	0.13	IND	0.50	0.79	+60%
TOTAL	**17**	**3.41**	**3.36**	**-1.2%**	**0.19**	**0.13**	**-32.3%**	**0.88**	**0.60**	**-31.6%**

Table 13: **Average (Aggregated) Total, Vulnerable User, and Injury Crash Rates by Site Facility Type**

Traffic Control	#	Total Crash Rate (Crashes/Year)			Vulnerable User Crash Rate (Crashes/Year)			Injury Crash Rate (Crashes/Year)		
		Before	After	Difference	Before	After	Difference	Before	After	Difference
Intersection - Signal Controlled	7	6.60	6.27	-5%	0.26	0.20	-23%	1.60	0.94	-42%
Intersection - Stop Controlled	7	1.37	1.15	-16%	0.22	0.10	-52%	0.50	0.42	-17%
Mid-Block	3	1.06	1.09	+3%	0.00	0.00	-	0.15	0.14	-10%
TOTAL	**17**	**3.41**	**3.36**	**-1.2%**	**0.19**	**0.13**	**-32.3%**	**0.88**	**0.60**	**-31.6%**

Table 14: **Average (Aggregated) Total, Vulnerable User, and Injury Crash Rates by Site Improvement Type**

Improvement	#	Total Crash Rate (Crashes/Year)			Vulnerable User Crash Rate (Crashes/Year)			Injury Crash Rate (Crashes/Year)		
		Before	After	Difference	Before	After	Difference	Before	After	Difference
Roadway Art Sites (Excl. Sites with Crosswalk Art)	6	2.45	1.96	-20%	0.27	0.08	-72%	0.50	0.45	-9%
Roadway Art + Crosswalk Art Sites	2	0.73	0.57	-22%	2.08	1.29	-38%	0.73	0.00	-100%
Crosswalk Art Sites (Excl. Sites with Roadway Art)	9	4.78	4.81	+1%	0.18	0.19	+8%	1.20	0.83	-31%
Combined (Average Rate)	**17**	**3.41**	**3.36**	**-1.2%**	**0.19**	**0.13**	**-32.3%**	**0.88**	**0.60**	**-31.6%**

likely a significant increase in pedestrian volumes. It is reasonable to expect an increase in total crash and vulnerable user rate when volumes increase significantly and is encouraging that the injury crash rate decreased despite this.

Although crash rates for specific crash types (vulnerable user and injury crashes) did increase for certain crash types in the after periods, sample sizes were often very small (most locations had 0 or 1 crash in before-after periods averaging over 3 years). As crashes are for the most part rare and random events with several contributing circumstances, when crash sample sizes are small, crash reductions at most individual locations are not statistically significant when evaluated individually.

The disaggregate analysis indicated mixed results for each crash type investigated when considering sites by setting. Increases in pedestrian crashes in urban locations may be due an increased rate of pedestrians, cyclists, and even motor vehicle traffic generated by improving the location with asphalt art and other developments. Crash rates decreased for signalized and unsignalized intersections and experienced an insignificant increase at mid-block crossing locations between the before and after analysis periods. Notably, the average crash rate decreased at signalized intersections despite the significant number of crashes at the Atlanta site.

The negligible increases in overall and vulnerable user crash rates at improvement sites with crosswalk art alone may also be due to an increased rate of pedestrians, cyclists, and even motor vehicle traffic generated by site and nearby improvements. Despite a slight increase in overall (+1%) and vulnerable user (+8%) crashes at crosswalk art sites, injury crashes were reduced by 31%.

Disaggregate analyses in the present study are based on a very limited sample sizes using basic crash analysis techniques. As such, while we cannot infer direct causation, results generally indicated reduced crash rates after installation of art for most crash types across a range of settings, traffic control, and improvement types. As more post-implementation crash data becomes available for asphalt art sites, further study and analysis using larger sample sizes would provide more insight into effectiveness of different types of art improvements in different roadway contexts.

3. Behavioral Observational Assessment

3.1. Background and Scope

While historical crash data provides insight into the safety performance of a subject site, it is important to keep in mind that crashes are rare occurrences and almost always have multiple contributing factors. The sample size of pedestrian crashes at most locations is too small to be of statistical significance at most locations individually. This is indicated in the above historical crash data, in that most sites have few to zero pedestrian crashes over both analysis periods. In instances where pedestrian crashes occur infrequently, other factors such as near-miss conflicts between pedestrians and vehicles, observed road user behavior, and compliance with traffic control devices can provide insight on the safety impacts as a result of roadway treatments such as asphalt art.

To study the impact of asphalt art on driver and pedestrian behavior, five intersection sites with art projects in Bloomberg Philanthropies' Asphalt Art Initiative were selected with scheduled implementation dates for summer-fall 2021. Video was recorded of the intersection capturing vehicle and pedestrian behavior for a period prior to and following installation. Using this video, visual observations were performed to assess pedestrian and motorist behavior during each observation period. The observation assessment methodology, information about sites selected, and findings are presented in the sections below.

3.2. Methodology

Video recordings of each intersection location were collected for 48-hour periods during the same days of the week (when possible) to capture approaching vehicles and crossing movements at each leg of the intersection. Video was first reviewed at a high level to determine appropriate 8-hour analysis periods before and after the installation of the art/improvements. In some cases, this 8-hour period was broken into multiple segments to capture peak hour pedestrian volumes.

The video recordings were reviewed during the before and after analysis periods to conduct conflict analyses and record other observable behavior metrics. Pedestrian group crossings (as opposed to individual pedestrians, which were also recorded) were utilized for purposes of analysis. This metric is typical for pedestrian crossing studies as pedestrians waiting at an intersection typically arrive or cross in groups. As an example, if a child and parent arrived at an intersection together and crossed the roadway together, they would be counted as a single crossing, while if there were two individuals waiting at an intersection and one crossed during a "flashing don't walk phase" while the other pedestrian decided to wait until the next interval, they would be counted as separate crossings.

As the observational study sites consisted of both signalized and unsignalized intersections, different metrics were captured based on different types of traffic control. The following details road-user behavior metrics assessed as part of this study.

3.2.1. Metrics at All Observation Sites

Pedestrian-Vehicle Conflicts

To compare road user behavior in the before and after conditions at signalized and unsignalized intersection locations, a conflict analysis was conducted using video data collected at each location. Conflict analysis involves observing and recording conflicts between pedestrians and drivers/vehicle. A conflict is defined as an observable situation in which two or more road users approach each other in space and time to such an extent that there is a risk of collision if their movements remain unchanged, and at least one of the road users then takes action to avoid a crash. Such an action could be as simple as a routine application of the brakes to give way to a crossing pedestrian.

Pedestrian-vehicle conflicts range in severity by how likely they are to result in a crash. This analysis considered conflicts of two levels:

» **Low Crash Potential** – A motorist noticeably brakes to avoid striking a pedestrian or group; a pedestrian or group of pedestrians stops to avoid being in the path of an oncoming or turning vehicle, although the vehicle has appropriately yielded. Neither actions are sudden, atypical, or extreme. Vehicles passing their appropriate stop bar, or negotiation of space between pedestrian and vehicle in the crosswalk may suggest a Low Crash Potential conflict.

» **High Crash Potential** – A motorist noticeably and clearly suddenly stops or swerves to avoid striking a pedestrian or group of pedestrians in a fashion that suggests reduced control of the vehicle; a pedestrian or group of pedestrians jumps, runs, stops, or suddenly steps or lunges to avoid being struck by a vehicle.

An example of a Low Crash Potential conflict is when a vehicle turning towards a pedestrian in the crosswalk noticeably brakes to avoid conflicting with the pedestrian. This behavior is normal and as expected, as pedestrians are crossing with the signal and the car properly yields to them; however, this is still considered to be a conflict because, if the vehicle had not yielded quickly, the vehicle would have to suddenly break or swerve (indicating a High Crash Potential conflict) to avoid potential collision. A turning vehicle yielding the right of way to crossing pedestrians is also the most common type of Low Crash Potential conflict encountered. The goal of this conflict analysis is to identify observed differences in driver and pedestrian behavior and occurrences of crash-risk conflicts before and after art implementation.

To consider the rate of Low and High Crash Potential conflicts, the video recorded was also reviewed to quantify pedestrian activity. The following metrics pertaining to pedestrian activity were quantified:

» **Pedestrian Crossing Groups** – A pedestrian, or a group of pedestrians, that both approach the crosswalk and cross at the intersection simultaneously.

» **Pedestrians per Crossing Group** - The number of people present per pedestrian crossing as defined above.

» **Origin/Destination of Crossing Groups** – The origin and destination crosswalk for each group of pedestrian crossings.

Pedestrian Actions

An analysis was conducted of undesired pedestrian actions at intersections in before and after conditions using collected video data. Undesired pedestrian actions were recorded as follows:

» Pedestrian crossing against signal – When a pedestrian crosses the intersection while the movement is prohibited by the pedestrian signal and begins their movement while a solid “Don’t Walk” symbol is displayed.

» Pedestrian crossing outside of crosswalk – When a pedestrian crosses mid-block, at an intersection approach outside the vicinity of the crosswalk or crosses the intersection at a diagonal.

3.2.2. Metrics at Unsignalized Observation Sites

Vehicle Yield/Stop Compliance

The goal of this yield compliance analysis is to identify observed differences in driver behavior with respect to compliance with yielding or stopping for pedestrians crossing or waiting to cross before and after art implementation, as well as noted behavior of pedestrians in the before and after observation periods.

Pedestrians have the right of way at unsignalized intersections, regardless of the presence or absence of a marked crosswalk, but people often have to wait for drivers to yield or stop for them before they start crossing. Particularly on higher-speed or higher-volume streets, drivers often fail to yield to pedestrians who are waiting to cross, and sometimes even fail to yield to people already in the crosswalk. In addition to injury risks, pedestrians face extended delays in crossing when drivers do not properly yield or stop for them.

As such, at unsignalized locations, the recorded videos were reviewed to analyze yielding behavior of drivers for crossing pedestrians along with other indicators of the traffic environment. The below metrics were recorded. It should be noted that only crossings with vehicles present at the intersection were analyzed, excluding crossings where pedestrians crossed with an adequate gap, unconflicted.

- **Vehicle Presence** – Whether there one or more vehicles approaching the observed crossing at the intersection at the time of the pedestrian crossing.
- **Non-Yielding Drivers/Vehicles** – The number of drivers who failed to yield to a pedestrian initiating crossing or in the crosswalk. This excludes any driver yielding to pedestrians even if suddenly braking in a manner that would constitute a potential crash conflict as defined in the section above.
- **Eventual Yield** – Whether or not the first or subsequent drivers, if present, eventually yielded to crossing pedestrians or pedestrians. If no vehicles yielded, pedestrians crossing during an adequate gap were noted as crossing with no eventual yield.

3.3. Observation Sites and Analysis Periods

A total of five sites were selected for observations analysis with asphalt art projects scheduled for installation in summer and fall 2021. Table 15 below provides a summary of each site, setting, intersection type, roadway/roadside improvement(s). Before and after street level and aerial photography is provided for each location in the Appendix. Table 16 provides a summary of locations by date of art installation and observation analysis periods. Before and after photos of each observation site are shown in Figures 2–6, illustrating the improvements made at each site.

Table 15: **Summary of Observational Assessment Sites**

#	City	State	Intersection	Traffic Control	Setting	Summary
1	Trenton	NJ	South Clinton Ave & Barlow St/ R Wallenberg Ave	Signal	Urban Core	Painted crosswalks
2	Richmond	VA	W Marshall St & Brook Rd	Signal	Urban Core	Curb extensions, bollards, painted intersection
3	Durham	NC	Club Blvd & Glendale Ave	Signal	Suburban	Painted crosswalks, painted intersection
4	Pittsburgh	PA	Roup Ave, S Fairmount St & Harriet St	Stop	Neighborhood Residential	Curb extensions, additional/revised marked crosswalks
5	Lancaster	PA	Strawberry St & Vine St	Stop	Urban Core	Curb extensions, bollards

Table 16: **Summary of Analysis Periods**

#	City	State	Intersection	Installation Date(s)	Before Observation Date	After Observation Date	Observation Period Times
1	Trenton	NJ	South Clinton Ave & Barlow St/ R Wallenberg Ave	9/4/21 - 9/5/21	8/24/2021	9/21/2021	7 AM–11 AM, 3 PM–7 PM
2	Richmond	VA	W Marshall St & Brook Rd	10/24/21 – 10/26/21	9/23/2021	11/16/2021	11 AM–7 PM
3	Durham	NC	Club Blvd & Glendale Ave	5/21/21- 5/24/21	5/15/2021	7/3/2021	10 AM–6 PM
4	Pittsburgh	PA	Roup Ave, S Fairmount St & Harriet St	9/23/21 – 9/24/21	9/9/2021	10/21/2021	8 AM–12 PM, 3:30 PM–7:30 PM
5	Lancaster	PA	Strawberry St & Vine St	9/11/21- 9/12/21	9/9/2021	10/24/2021	8 AM–12 PM, 3:30 PM–7:30 PM

Trenton, NJ

Figure 2: **Trenton, NJ - Before**

Figure 3: **Trenton, NJ - After**

Richmond, VA

Figure 6: **Richmond, VA - Before**

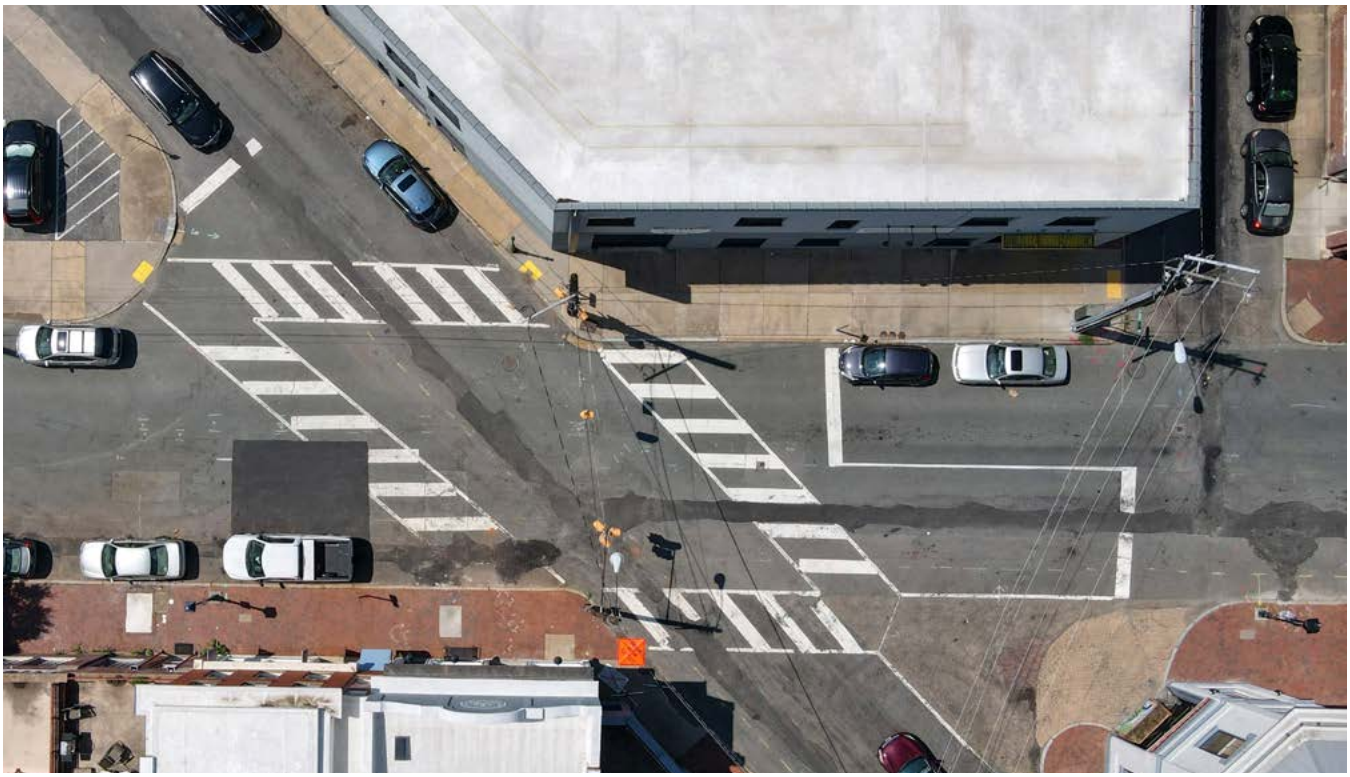
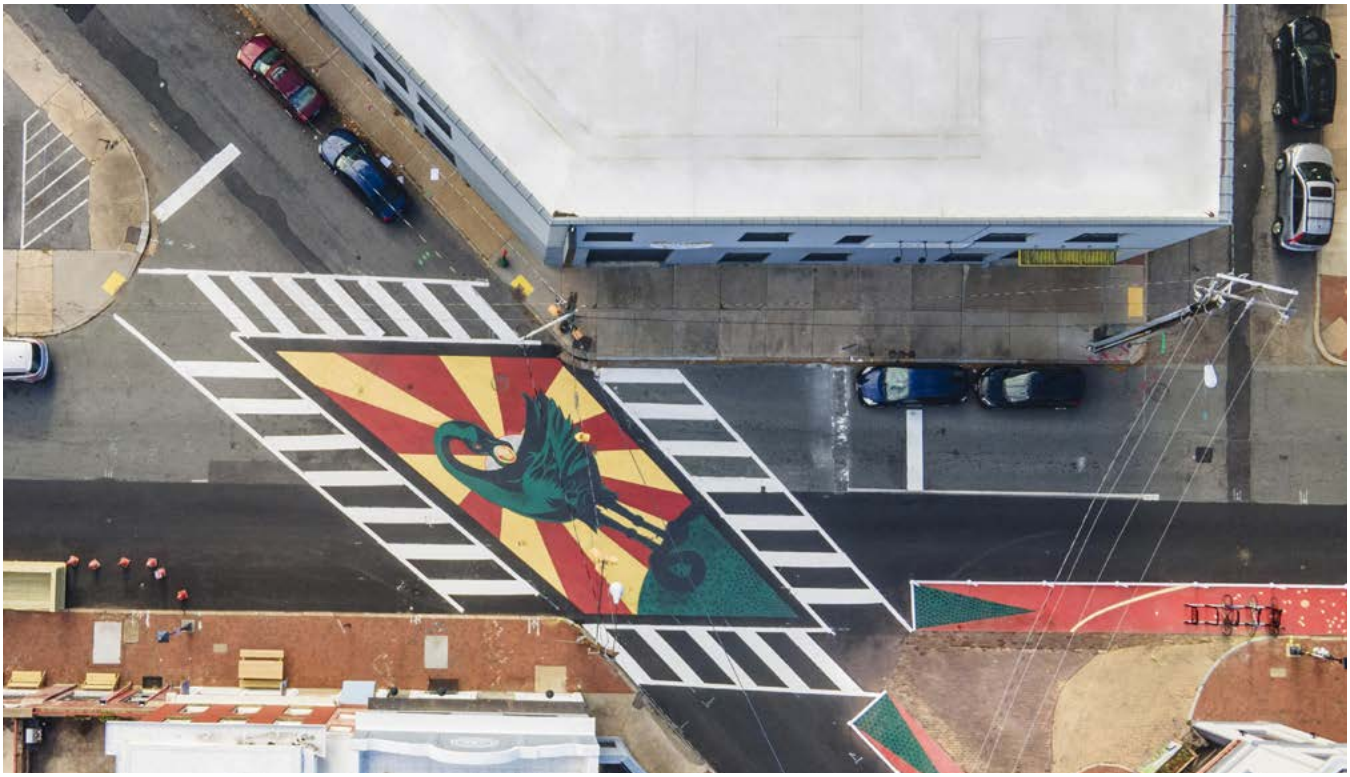


Figure 7: **Richmond, VA - After**



Durham, NC

Figure 8: **Durham, NC - Before**

Figure 9: **Durham, NC - After**

Pittsburgh, PA

Figure 10: **Pittsburgh, PA - Before**

Figure 11: **Pittsburgh, PA - After**

Lancaster, PA

Figure 12: **Lancaster, PA - Before**

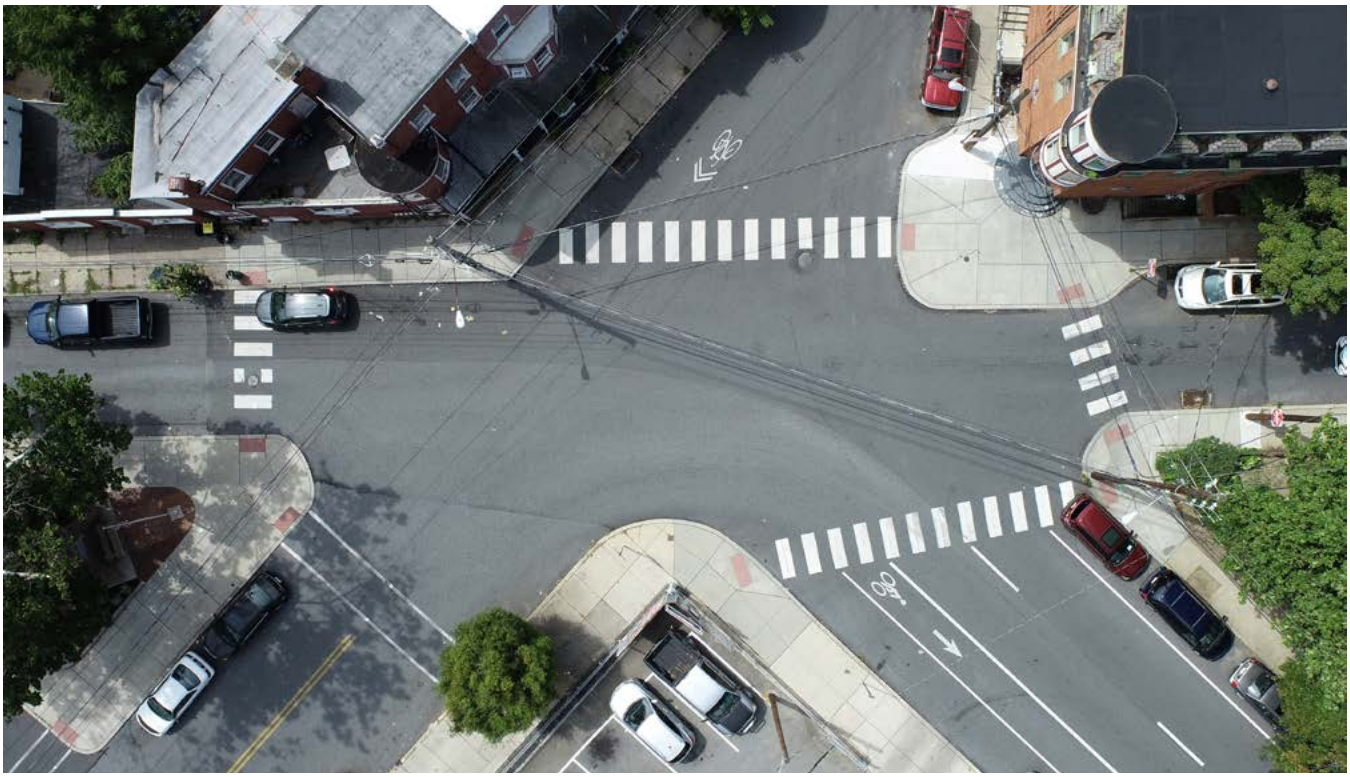
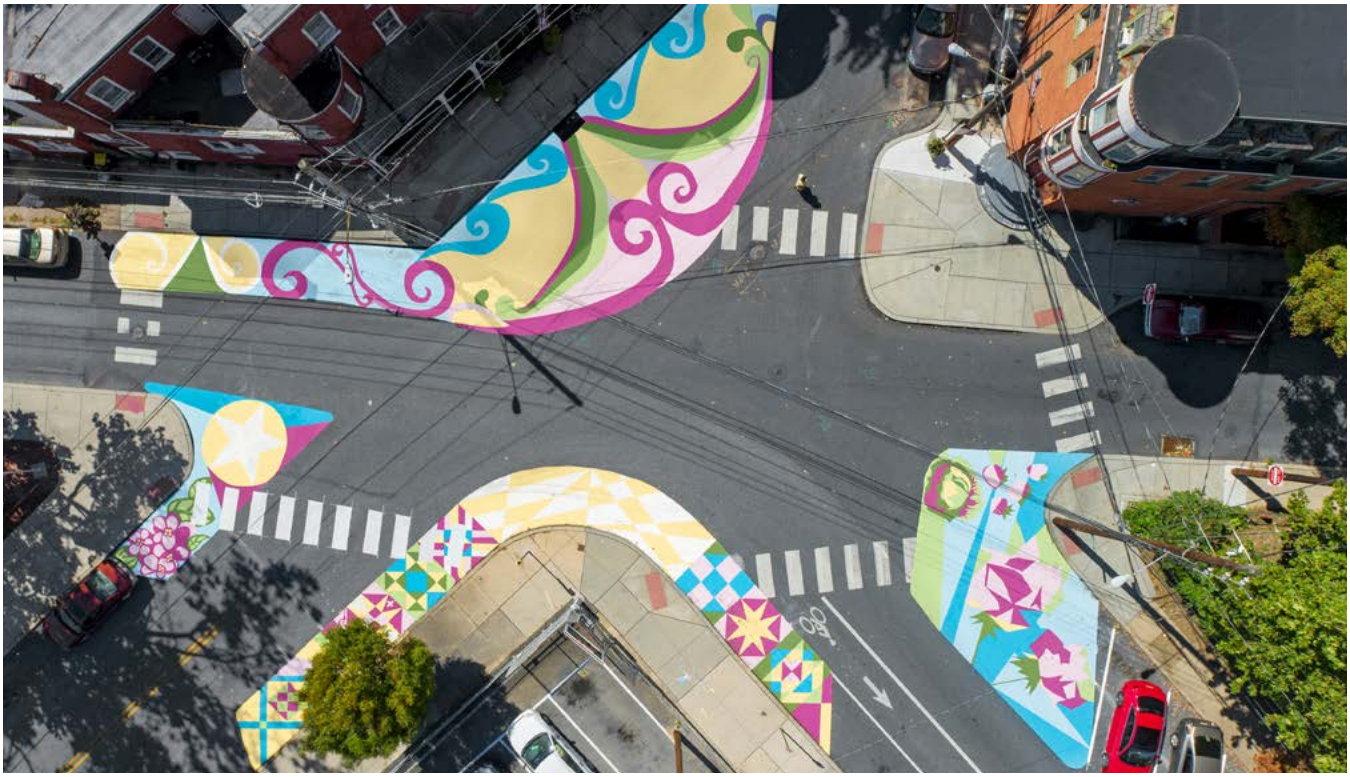


Figure 13: **Lancaster, PA - After**



3.4. Behavioral Assessment Results

3.4.1. Vehicle-Pedestrian Conflict Assessment

At both signalized locations, the total conflict rate and rate of low crash potential conflicts decreased after the installation of asphalt art. Tables 17 summarizes the results of the vehicle-pedestrian conflict assessments for each site, signalized observation sites aggregated, unsignalized observation sites aggregated, and all observation sites aggregated. The high crash potential conflict rate increased at the Trenton location negligibly (an absolute difference of 0.1% in the rate). The average (aggregated) low and high crash potential conflict rates decreased when considering observed crossing movements at combined signalized study sites.

At the Durham unsignalized site, the rate of both high and low crash potential conflicts decreased. The low crash potential conflict rate decreased by 61% (an absolute difference of six fewer occurrences) at the Pittsburgh site and increased by 23% (an absolute difference of two additional occurrences) at the Lancaster site. No high crash potential conflicts occurred during the before or after observation periods at the Pittsburgh and Lancaster sites. The average (aggregated) low and high crash potential conflict rates decreased when considering observed crossing movements at unsignalized study sites.

When considering all observed movements at observation sites aggregated, the rate of crossings involving a low and high crash potential conflict decreased by 27% and 18%, respectively, an overall decrease of 25%.

Table 17: **Pedestrian-Vehicle Conflict Assessment Results**

	Pedestrian Crossing Behavior/Action	Before		After		Conflict Rate Reduction (%)
		Crossings (#)	Crossings (%)	Crossings (#)	Crossings (%)	
Trenton, NJ	**Total Pedestrian Crossings**	**1,035**	-	**1,050**	-	-
	Crossings Involving a Conflict	68	6.6%	59	5.6%	-14.5%
	High Crash Potential Conflicts	13	1.3%	15	1.4%	+13.7%
	Low Crash Potential Conflicts	55	5.3%	44	4.2%	-21.1%
Richmond, VA	**Total Pedestrian Crossings**	**325**	-	**319**	-	-
	Crossings Involving a Conflict	14	4.3%	6	1.9%	-56.3%
	High Crash Potential Conflicts	5	1.5%	1	0.3%	-79.6%
	Low Crash Potential Conflicts	9	2.8%	5	1.6%	-43.4%
Aggregated for Signalized Sites Combined	**Total Pedestrian Crossings**	**1,360**	-	**1,369**	-	-
	Crossings Involving a Conflict	82	6.0%	65	4.7%	-21.3%
	High Crash Potential Conflicts	18	1.3%	16	1.2%	-11.7%
	Low Crash Potential Conflicts	64	4.7%	49	3.6%	-23.9%
Durham, NC	**Total Pedestrian Crossings**	**301**	-	**215**	-	-
	Crossings Involving a Conflict	6	2.0%	3	1.4%	-30.0%
	High Crash Potential Conflicts	1	0.3%	0	0.0%	-100.0%
	Low Crash Potential Conflicts	5	1.7%	3	1.4%	-16.0%
Pittsburgh, PA	**Total Pedestrian Crossings**	**287**	-	**372**	-	-
	Crossings Involving a Conflict	12	4.2%	6	1.6%	-61.4%
	High Crash Potential Conflicts	0	0.0%	0	0.0%	-
	Low Crash Potential Conflicts	12	4.2%	6	1.6%	-61.4%
Lancaster, PA	**Total Pedestrian Crossings**	**253**	-	**308**	-	-
	Crossings Involving a Conflict	4	1.6%	6	1.9%	+23.2%
	High Crash Potential Conflicts	0	0.0%	0	0.0%	-
	Low Crash Potential Conflicts	4	1.6%	6	1.9%	+23.2%
Aggregated for Unsignalized Sites Combined	**Total Pedestrian Crossings**	**841**	-	**895**	-	-
	Crossings Involving a Conflict	22	1.6%	15	1.1%	-32.3%
	High Crash Potential Conflicts	1	0.1%	0	0.0%	-100.0%
	Low Crash Potential Conflicts	21	1.5%	15	1.1%	-29.0%
Aggregated for Observational Sites Combined	**Total Pedestrian Crossings**	**2,201**	-	**2,264**	-	-
	Crossings Involving a Conflict	104	4.7%	80	3.5%	-25.2%
	High Crash Potential Conflicts	19	0.9%	16	0.7%	-18.1%
	Low Crash Potential Conflicts	85	3.9%	64	2.8%	-26.8%

3.4.2. Driver-Pedestrian Yield Assessment at Unsignalized Sites

Drivers were more likely to yield to pedestrians after asphalt art was installed. Table 18 summarizes the results of the pedestrian-vehicle yielding assessment for unsignalized intersection sites (Durham, NC; Pittsburgh, PA; and Lancaster PA sites, and the three unsignalized sites combined, respectively). While yield behavior results varied at each site, when considering observed crossings at all three unsignalized locations aggregated, the occurrences of the first/all vehicles yielding increased by 27% and the occurrences of no vehicles yielding before the pedestrian group crossed decreased by 27%.

Table 18: **Pedestrian-Vehicle Yield Assessment**

	Pedestrian Crossing Behavior/Action	Before		After		Difference
		Crossings (#)	Crossings (%)	Crossings (#)	Crossings (%)	
Durham, NC	**Crossings w/ Vehicle Present**	**50**	-	**38**	-	-
	All drivers yielded to pedestrian(s) crossing	7	14.0%	3	7.9%	-43.6%
	One or more drivers did not yield, but drivers eventually yielded	6	12.0%	7	18.4%	+53.5%
	No drivers yielded—pedestrian crossed during a gap	37	74.0%	28	73.7%	-0.4%
Pittsburgh, PA	**Crossings w/ Vehicle Present**	**26**	-	**30**	-	-
	All drivers yielded to pedestrian(s) crossing	24	92.3%	28	93.3%	+1.1%
	One or more drivers did not yield, but drivers eventually yielded	0	0.0%	1	3.3%	-
	No drivers yielded—pedestrian crossed during a gap	2	7.7%	1	3.3%	-56.7%
Lancaster, PA	**Crossings w/ Vehicle Present**	**36**	-	**93**	-	-
	All drivers yielded to pedestrian(s) crossing	25	69.4%	71	76.3%	+9.9%
	One or more drivers did not yield, but drivers eventually yielded	5	13.9%	4	4.3%	-69.0%
	No drivers yielded—pedestrian crossed during a gap	6	16.7%	18	19.4%	+16.1%
Aggregated for Unsignalized Sites Combined	**Crossings w/ Vehicle Present**	**112**	-	**161**	-	-
	All drivers yielded to pedestrian(s) crossing	56	50.0%	102	63.4%	+26.7%
	One or more drivers did not yield, but drivers eventually yielded	11	9.8%	12	7.5%	-24.1%
	No drivers yielded—pedestrian crossed during a gap	45	40.2%	47	29.2%	-27.3%

3.4.3. Pedestrian Actions Assessment

Table 19 summarizes the results of the pedestrian action assessment. The percentage of occurrences of undesirable pedestrian actions are calculated for each observation period by dividing the number of occurrences of undesired crossing actions by total number of crossings. At both signalized sites, the percentage crossings involving undesirable pedestrian actions (crossing against the signal and crossing outside the vicinity of the marked crosswalk) decreased in the period after asphalt art was installed.

The percentage of crossings involving pedestrians crossing outside of the marked crosswalk increased in the after period at unsignalized observation when combined despite a reduction at the Pittsburgh site. Pedestrian crossing actions were not recorded for the Durham site.

3.5. Discussion of Behavior Assessment Results

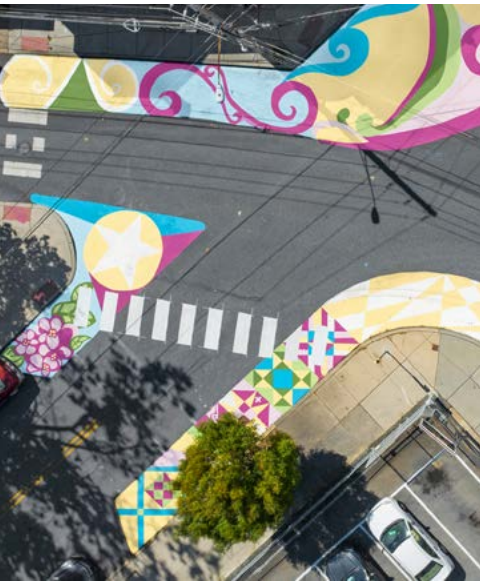
As crashes almost exclusively have multiple contributing circumstances and are often random events, road user behavior is a critical indictor of road safety performance at a site in addition to crash data. Across each metric analyzed, results indicated that asphalt art has an overall positive impact on safe driver and pedestrian behavior, resulting in a reduced (-25%) rate of driver/vehicle-pedestrian conflicts, improved (+27%) rate of drivers yielding to pedestrians, and reduced (-27 to -38%) rate of undesirable pedestrian actions in the after observation period.

When considering road user behavior at sites by type of traffic control, driver/vehicle-pedestrian conflict rates were reduced at both signalized and unsignalized intersections while a greater rate of pedestrians were observed crossing outside of the marked crosswalk vicinity at unsignalized sites. The driver yield assessment was only performed for unsignalized sites only as traffic signals control vehicle and pedestrian movements at signalized intersections. Results indicate that drivers not only yielded immediately to pedestrians 27% more frequently after art was installed, but the frequency of no vehicles stopping for the pedestrian (pedestrian having to find a gap in traffic to cross) was reduced by 27%. While MUTCD rulings have suggested that the art may confuse drivers as to whether or not the art is part of a marked crosswalk, drivers yielded more often in the after observation period.

Table 19: **Pedestrian Actions at Observational Study Locations**

	Pedestrian Crossing Behavior/Action	Before		After		Difference
		Crossings (#)	Crossings (%)	Crossings (#)	Crossings (%)	
Trenton, NJ	**Total Crossings**	**1035**	-	**1050**	-	-
	Crossing Against Signal (Solid DON'T WALK)	363	35.1%	229	21.8%	-37.8%
	Crossing Outside of Marked Crosswalks	207	20.0%	139	13.2%	-33.8%
Richmond, VA	**Total Crossings**	**325**	-	**319**	-	-
	Crossing Against Signal (Solid DON'T WALK)	5	1.5%	1	0.3%	-79.6%
	Crossing Outside of Marked Crosswalks	68	20.9%	35	11.0%	-47.6%
Aggregated for Signalized Sites Combined	**Total Crossings**	**1360**	-	**1369**	-	-
	Crossing Against Signal (Solid DON'T WALK)	368	27.1%	230	16.8%	-37.9%
	Crossing Outside of Marked Crosswalks	275	20.2%	174	12.7%	-37.1%
Durham, NC	**Total Crossings**	**301**	-	**215**	-	-
	Crossing Outside of Marked Crosswalks	Not Available	Not Available	Not Available	Not Available	Not Available
Pittsburgh, PA	**Total Crossings**	**287**	-	**372**	-	-
	Crossing Outside of Marked Crosswalks	28	9.8%	23	6.2%	-36.6%
Lancaster, PA	**Total Crossings**	**253**	-	**308**	-	-
	Crossing Outside of Marked Crosswalks	42	16.6%	64	20.8%	+25.2%
Aggregated for Unsignalized Sites	**Total Crossings**	**841**	-	**895**	-	-
	Crossing Outside of Marked Crosswalks	70	5.1%	87	6.4%	+23.5%
Aggregated for Observational Sites Combined	**Total Crossings**	**2201**	-	**2264**	-	-
	Crossing Against Signal (Solid DON'T WALK) (Signalized Sites Only)	368	27.1%	230	16.8%	-37.9%
	Crossing Outside of Marked Crosswalks	345	15.7%	261	11.5%	-26.5%

4. Conclusion/Next Steps



As indicated in the results of both the historical crash analysis and observational behavior assessment, asphalt art had a strong positive correlation with improved safety benefits across aggregated and most individual study sites. Road user behavior clearly improved across the observed study sites in the after analysis periods.

At unsignalized intersections, there was a greater frequency of drivers immediately yielding to crossing pedestrians. Similarly, pedestrian-vehicle conflict assessments indicated a reduction in conflict rates at both signalized and unsignalized intersections. Good pedestrian crossing practices, such as crossing at marked crosswalk locations and crossing during the pedestrian phase, also improved substantially at signalized intersections with crossings against the signal dropping from 27% to 17%. Meanwhile, at unsignalized intersections, a few more people crossed outside the marked crosswalk, but the rate was still quite low (1% of people crossing the street).

On the basis of these positive findings, the study team recommends a significant expansion of this study to include asphalt art sites in a variety of roadway and land use contexts. This would allow for a more detailed assessment of which elements of projects (the art itself, additional traffic control, roadway, or roadside improvements, etc.) are the most effective, and also take into account other changes that may have taken place after the implementation period (redevelopment, population growth, changes to local bike or transit networks, etc.). It will also be critical to have control groups to account for the random variation in crash rates over time. This would determine a crash modification factor for asphalt art projects and provide the research grounding that some transportation professionals have requested.

This study also provides important context and precedent for the FHWA and others working to improve the MUTCD and other design guidance in the U.S. and globally. As the FHWA is currently revising the MUTCD, this analysis could contribute to more immediate changes to the language of that document to be more supportive of asphalt art projects going forward. Federal adoption of the language regarding color crosswalks proposed jointly by ITE and NACTO could clarify guidance and go a long way toward removing arbitrary barriers to asphalt art implementation. Additionally, since asphalt art is not technically prohibited by the current MUTCD and has only been restricted through interpretation memos that did not undergo the Federal regulatory process, the FHWA could remove this ambiguity with another such interpretation memo citing the results of this study and clarifying that the use of color in crosswalks and the use of artwork on roadways is in fact permitted under the 2009 MUTCD (excluding controlled-access highways such as Interstates/freeways).

Last and perhaps most important, this study, with a rigorous analysis of nearly two dozen projects across the country, provides supporting quantitative data for residents and city officials to use to implement asphalt art projects in their own communities. The results provide evidence to decision-makers that these projects will likely reduce crashes and improve safety for the most vulnerable users on the road.

By contributing to the body of research on this topic and through the Asphalt Art Initiative and work by cities, the study team hopes to encourage more arts-focused transportation projects that contribute to safer city streets across the country and around the world.

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