APRIL 25, 2018 MEETING MINUTES
OF THE
RIVER TO SEA TRANSPORTATION PLANNING ORGANIZATION (TPO) BOARD

2570 W. International Speedway Boulevard, Suite 100
Daytona Beach, FL 32114-8145

TPO Board Members Present:
Mayor Stephen Emmett**
Commissioner Robert Gilliland, 2nd Vice Chairperson
Council Member Lorraine Geiger*
Vice Mayor Lita Handy-Peters, 1st Vice Chairperson
Vice Mayor Leigh Matusick
Commissioner Chris Nabicht
Councilwoman Christine Power
Commissioner Marshall Shupe*
Council Member Nate McLaughlin
Commissioner Arthur Byrnes
Vice Mayor Vernon Burton*
Vice Mayor Jason McGuirk
Commissioner Bill Lindau*
Council Member Jeff Allebach
Commissioner Rob Littleton
Mayor James Sowell*
Council Member Joe Perrone*
Councilman Ralph Schoenherr
Volusia County Council Chair Ed Kelley
Council Member Pat Patterson
Council Member Billie Wheeler
Volusia County Council Vice Chair Deb Denys, Chairperson
Vickie Wyche (non-voting advisor)
Robert Storke (non-voting)
Janet Deyette (non-voting)
Jose Papa (non-voting)

TPO Board Members Absent:
Vice Mayor John Rogers*
Andy Dance (non-voting)
Commissioner Steve Nobile
Council Member Drew Bastian (excused)
Council Member Joyce Cusack
Saralee Morrissey (non-voting)

* Non-voting member in the Small City Alliance
** Voting member for the Small City Alliance

Representing:
Beverly Beach
Daytona Beach
Daytona Beach Shores
DeBary
DeLand
Deltona
Edgewater
Flagler Beach
Flagler County
Holly Hill
Lake Helen
New Smyrna Beach
Oak Hill
Orange City
Ormond Beach
Pierson
Ponce Inlet
South Daytona
Volusia County
Volusia County District 1
Volusia County, District 2
Volusia County, District 3
FDOT District 5
BPAC Chairperson
CAC Chairperson
TCC Chairperson

Others Present:
Debbie Stewart, Recording Secretary
Lois Bollenback
Pamela Blankenship
Colleen Nicolin
Herbert Seely
Stephan Harris
Vince Wang
Aarti Sharma

Representing:
TPO Staff
TPO Staff
TPO Staff
TPO Staff
TPO Staff
TPO Staff
TPO Staff
I. **Call to Order / Roll Call / Determination of Quorum**

The meeting of the River to Sea Transportation Planning Organization (TPO) Board was called to order at 9:00 a.m. by TPO Chairperson Deb Denys. The roll was called and it was determined that a quorum was present.

Ms. Stewart announced that Mayor Emmett, Beverly Beach, would be the voting member for the Small City Alliance.

II. **Pledge of Allegiance**

A moment of silence was observed.

III. **Public Comment/Participation**

Chairperson Denys asked the public to keep their comments to matters that pertain to the TPO and to refrain from negative comments directed at TPO Board members.

There were no public comments.

Chairperson Denys introduced new FDOT District 5 Secretary, Mr. Mike Shannon, and welcomed him to the meeting.

Secretary Shannon stated he was glad to be here and introduced his staff, Ms. Carol Scott, Mr. Ron Meade, and Ms. Vickie Wyche.

IV. **Consent Agenda**

A. March 28, 2018 River to Sea TPO Board Meeting Minutes
B. Treasurer’s Report
C. Executive Committee Report
D. Bicycle and Pedestrian Advisory Committee (BPAC) Report
E. Citizens Advisory Committee (CAC) Report
F. Technical Coordinating Committee (TCC) Report
G. River to Sea TPO Board (R2CTPO) Summary Report
H. R2CTPO Budget Subcommittee Report
I. R2CTPO Nominating Subcommittee Report
J. Transportation Improvement Program (TIP) Subcommittee Report
K. BPAC Project Review Subcommittee Report
L. BPAC Bicycle Suitability Map Subcommittee Report
M. Central Florida MPO Alliance (CFMPOA) Report

N. Review and Approval of Selection Committee’s Recommendation for Copier Services

**MOTION:** Commissioner Gilliland moved approval of the Consent Agenda. Commissioner Nabicht seconded the motion which carried unanimously.

V. Action Items

A. Review and Approval of Resolution 2018-08 Adopting the FY 2018/19 and 2019/20 Unified Planning Work Program (UPWP)

**OPEN PUBLIC HEARING ON THE DRAFT FY 2018/19 AND 2019/20 UNIFIED PLANNING WORK PROGRAM (UPWP)**

Chairperson Denys opened the public hearing on the FY 2018/19 and 2019/20 UPWP at 9:07 a.m.

There were no public comments and the public hearing closed at 9:08 am.

Chairperson Denys stated the UPWP establishes a two-year Work Program for the TPO. It was developed by TPO staff with input from the UPWP Subcommittee. A draft was presented to the TPO advisory committees and board for review in January. The draft document was submitted to FDOT for review and comment; three minor comments were received and have been addressed in the updated draft.

Ms. Bollenback stated in addition to the minor comments included in the agenda summary, the TPO recently received comments from the Federal Highway Administration (FHWA). Those were very minor editorial comments that have been addressed.

Chairperson Denys directed members to the TPO website for the document.

**MOTION:** A motion was made by Council Member Patterson to approve Resolution 2018-08 adopting the draft FY 2018/19 and 2019/20 Unified Planning Work Program (UPWP). Vice Mayor Matusick seconded the motion which carried unanimously.

B. Review and Approval of Resolution 2018-09 Amending the FY 2017/18 – 2021/22 Transportation Improvement Program (TIP)

Chairperson Denys stated the proposed amendment to the TIP includes increasing construction funding by $4.92 million for the I-95 resurfacing from the Volusia County line to north of Palm Coast Parkway. It also adds a new project; I-95 resurfacing project from south of Dunn Avenue to Airport Road and adds $1.03 million for design. It also adds another new project; the East Volusia Traffic Management Center relocation project that adds $110,000 for design. She urged members to look at the costs of these projects; it is not just about roads but about the transportation system.

Ms. Bollenback stated these are contracts that FDOT wants to move forward with as soon as the new fiscal year begins. The resurfacing projects are system preservation and the East Volusia Traffic Management Center relocation project is a Volusia County project; a portion of the funding for that is on the priority list under Traffic Operations and Maintenance. This is infrastructure needed to capitalize on the advancing and emerging technologies.

**MOTION:** A motion was made by Commissioner Gilliland to approve Resolution 2018-09 amending the FY 2017/18 – 2021/22 Transportation Improvement Program (TIP). Council Member Patterson seconded the motion which carried unanimously.
C. Review and Approval of the 2018 River to Sea TPO’s “Tell the TPO” Survey Questions and Survey Kick-Off

Chairperson Denys stated the “Tell the TPO” survey campaign is set to kick-off in a few days. Each TPO Board member will have a role as an ambassador to the campaign.

Ms. Blankenship introduced Ms. Lara Bouck, H.W. Lochner, Project Manager, to give the updated presentation.

Ms. Bouck gave a PowerPoint presentation and stated the goals of the survey were reviewed last month and are in the agenda. The survey will launch on Monday, April 30, 2018; the online version will go live on that date and continue through June 30, 2018. The marketing plan this year is maximum exposure; they want to receive 2,000 responses and are targeting everyone that lives, works or visits the TPO planning area. They will be attending three regional events during the survey’s live period; one will be at One Voice for Volusia’s May 9, 2018 meeting. They will also be at the Volusia County Farmer’s Market and are targeting one additional activity in Flagler County. The random prize drawing is a two-night stay for two people at the Daytona Beach shores Resort and Spa. She reviewed the tools to get word about the survey out. Based on instructions from the TPO Board, two new questions have been identified. The survey will be available in English and Spanish and be dispersed throughout the East and West Volusia County and in Flagler County. She reviewed the TPO Board and the committee challenges; the winner of each will receive a trophy. On Friday, April 28, 2018, an email will be sent to the TPO Board members with a link specific to them to forward to family and friends. Each of the advisory committees has a link specific to the committee. New question 9 asks which types of transportation projects are the highest priorities to fund with the TPO’s limited resources and new question 10 asks which of the 10 highest crash locations are of the greatest concern. They will compile the results in July and she will be back in August for a presentation of those results.

Volusia County Council Chair Kelley announced he was personally going to try to get 500 responses and wants to ensure he will receive credit for those. He asked if there was a code for them to use.

Ms. Bouck replied he can forward his specific link which will be emailed to him.

Volusia County Council Chair Kelley this is a great opportunity for the public to play a part and provide input.

Commissioner Byrnes suggested the Daytona Beach Flea Market as a place of outreach.

Ms. Bouck replied yes; they are coordinating with them.

Chairperson Denys encouraged the members to give the survey to their elected bodies and to take it to any civic groups they are involved in.

MOTION: A motion was made by Council Member Wheeler to recommend approval of the 2018 River to Sea TPO’s “Tell the TPO” Survey questions. The motion was seconded by Councilman Schoenherr and carried unanimously.

VI. Presentations and Discussion Items

A. Presentation and Discussion of the Draft R2CTPO FY 2018/19 Budget

Chairperson Denys stated each year the Budget Subcommittee develops a recommended budget for the upcoming fiscal year. The Subcommittee is led by the TPO’s 1st Vice Chair and Treasurer, Vice Mayor Lita Handy-Peters.

Ms. Bollenback stated the draft budget is provided in the agenda and she directed the board to the budget summary. The budget remains stable year after year; typically, the item that changes the most is “Special Studies” which depends on how much set-aside money is flexed over to planning studies versus how much is
done in-house. Salaries and fringe benefits are going down slightly even with a 3% increase and a market adjustment for a few positions; the employment market is very competitive and the TPO wants to retain staff. She reviewed other savings, such as with the new lease. With the savings in the lease, the TPO wants to make some renovations starting with the conference room. The TPO wants to expand the conference room and upgrade the audio and recording equipment. She continued to review the changes to the budget which will be back for approval next month.

Council Member Perrone asked if the $5,000 market adjustment was aggregate or per employee.

Ms. Bollenback replied not per employee; once for the organization.

Chairperson Denys stated it is a good contract for the lease; the rent decreased substantially. She noted 75% of the year is complete and the TPO has only spent 60% of its budget.

B. Presentation and Discussion of Request to Bundle Holly Hill Sidewalk Projects Along Center Avenue, Flomich Street and 15th Street

Chairperson Denys stated the city of Holly Hill currently has five sidewalk projects on the River to Sea TPO’s List of Prioritized Bicycle and Pedestrian Projects. Holly Hill is requesting consideration to bundle these projects together for the design phase of project development. Representatives from Holly Hill are here to present their request.

Mr. Antoine Khoury, City Engineer for Holly Hill, gave a PowerPoint presentation and explained the city’s plan for moving forward with these sidewalk projects. There are currently five projects on the priority list in different tiers. The main goal of these projects is to serve Holly Hill Elementary School and improve pedestrian circulation for school access. He reviewed the individual projects and stated the project on Tier A is funded for design in FY 2018/19; the city is requesting a delay of this funding to FY 2019/20 and would like to combine all five projects under one contract. This recommendation came from Volusia County; they believe it will save money and it will reprioritize these projects by cost effectiveness. The city is requesting funding for design in FY 2019/20 and they would like to maintain the option of partnering with Volusia County or have the city become Local Agency Program (LAP) certified. They are requesting $235,000 from FDOT for design; the city will provide a 10% local match of $23,500 bringing the total design cost to $225,250. This request is to make these projects cost effective and move them forward.

Ms. Bollenback stated the TPO is in the middle of its Call for Projects and as the lists are updated, if there is a significant change, staff will bring it back for discussion. The TPO encourages bundling projects; typically that is how the projects come in, not after they have been ranked. One of these projects is in Tier A on the Work Program and has funding assigned to it. The city has been trying to get LAP certified and Volusia County has agreed to work with them but only if the projects are bundled as one project. There is a lot of practical and financial sense to doing that. The challenge is the other projects in this bundle are on Tier B awaiting funding; and the projects on Tier C are for feasibility studies. One of them has had the feasibility study and one has not. This request will move those projects ahead of all other projects on the priority list into the funded category. The concern is in setting a precedent. The other concern is not all the projects may get designed; which ones move forward depend on further vetting. FDOT will not issue a LAP contract for a potential design. They will only issue a LAP contract for projects that will be designed and that decision has not been made yet.

Chairperson Denys asked how many of these five projects have currently been designed.

Ms. Bollenback replied none have been designed yet.

Chairperson Denys asked how many of the projects are funded and how many are in Tier A.

Ms. Bollenback replied one.
Chairperson Denys asked how many of the projects are in Tier B.

Ms. Bollenback replied two in Tier B and two in Tier C. No matter what, the city is asking the existing funded project to be deferred a year; then the approach is to bundle what happens next.

Mr. Khoury explained the issue is not if the projects are going to be designed; most of them will be designed. The challenge is doing what is cost feasible; some of these projects have challenges that might not be cost effective such as right-of-way. If a property owner does not want to cooperate, the city cannot condemn the right-of-way. The projects that do not have as many challenges will move up and the others that have challenges may be reduced to pedestrian enhancements such as crosswalks that improve circulation. He is not sure the city can get sidewalks everywhere it is proposing.

Chairperson Denys commented that the issue is the design and the concern with Tiers A, B and C.

Volusia County Council Chair Kelley stated this was brought about by the county’s suggestion to bundle the projects and delay the one project to create the bundling. One project is approved for funding that can be designed and move forward. The other four projects are questionable as to whether they will happen or not. He does not want to penalize Holly Hill for what they want to do but it is incumbent for the board to move forward with those projects that can be done. He asked why the county could not do the projects individually because each one requires different input and has a different set of circumstances. Part of the problem is that the county is insisting on the bundling; if they had not insisted, Holly Hill would not have asked for this.

Chairperson Denys asked Mr. Jon Cheney, Volusia County Traffic Engineering Director, to explain.

Mr. Cheney explained he attended the meetings with Holly Hill and FDOT when they discussed each of these five projects and the county suggested that it would be easier to bundle their projects in order to be cost effective. FDOT and Holly Hill concurred. There were certain conditions the county asked Holly Hill to look at such as right-of-way issues; if there is right-of-way required, Holly Hill would have to do that. There were design questions the county engineers asked FDOT to look into and they are still waiting for a response. He is not sure if the TPO had started discussing the concept of bundling when these projects were submitted between 2011 to 2014.

Chairperson Denys asked when the last meeting was held and when the recommendation for bundling came up.

Mr. Cheney replied in the last three to four months.

Commissioner Nabicht reminded the board the last time a big change was made it was regarding cost increases and it allowed cities to come back with cost overruns to ask for more money. That money quickly ran out and the TPO had to move projects around. The bundling of projects should be on the original submission. He does not have a problem bundling the Tier B and Tier C projects and moving ahead with the project that already has funding but he hears a lot of uncertainty as to what actually can be done. He is uncomfortable with pledging funds to something with a great deal of uncertainty. He knows there are savings that will occur by bundling but he did not hear a dollar amount or where those savings will be; if it would save the TPO or just Holly Hill. If there is a savings, the fiduciary responsibility is to the TPO funding. It does not make sense at this point to bundle all five projects with so much uncertainty. He can support bundling the projects on Tiers B and C to see where they fall but to go back and assume that by bundling they all will move into Tier A status is unfair to other cities that have moved projects forward. He asked if Holly Hill could pay for design and use that as their local match.

Ms. Bollenback replied yes; there is always the opportunity to do the design in-house and have it become the local match. He is on point when it comes to what will and what will not be designed. FDOT will not issue a LAP contract unless they know it will be designed and has the potential to be constructed. They will not issue a LAP contract to explore five of projects and only design three. The city is asking for the existing
funded project be deferred in order to become LAP certified. To the question on cost savings, there are not hard cost savings; where the savings occur is harder to quantify. If the projects are bundled, one contract will be issued, one LAP certification will cover them all and they will advertise and issue only one contract. It is a larger contract and is usually more competitive as opposed to leaving them separate and having to do it five times. That is for FDOT, the TPO and the city’s involvement; it requires a lot of time and cost. This is more efficient and they are doing this at the request of Volusia County. It is more complicated and there are potential negative impacts of doing this. As this has been discussed with the committees, more information has come to light that may make it impossible to move forward as the request is. The city will have to reconcile with the county and FDOT.

Councilwoman Power suggested the project in Tier A stay where it is, the projects in Tier B be bundled and the projects in Tier C be bundled. She asked if one of the Tier C projects fails if it would kill the other project.

Ms. Bollenback replied FDOT will not allow them to be bundled and issue a LAP if there is a likelihood that one or two projects will not move forward. FDOT does not reimburse for pre-evaluation; only the actual design work is reimbursed. The city is stuck between the pre-evaluation and the actual design which is why the TPO needs that answer before making a final decision.

Vice Mayor Matusick stated the project that is funded has been through the process and been vetted; if it is postponed a year and the projects are bundled, there is the potential to lose that project. She asked if they are bundled and do not meet the requirements, how will that funded project move forward or would the city have to start over. She also asked how that would affect other cities, Deland has several projects on the priority list. She asked if projects had to be clear and concise to bundle or if a city can bundle all their projects.

Ms. Bollenback replied it is typically similar projects; in this case it is all sidewalks that connect to provide access to the school. They were submitted independently because of right-of-way issues; if there are three sidewalks with no right-of-way issues, one contract can be issued.

Chairperson Denys commented it was presented that one sidewalk may end up being a crosswalk. She does not think anyone wants to jeopardize the project in Tier A so she suggested keeping that project where it is and having Holly Hill come back with more definitive answers on the projects in Tiers B and C.

Commissioner Byrnes stated when these projects were originally submitted, the LAP certification was not always required. The two Tier B projects are in anticipation of funding because the projects ahead of them have found alternative funding sources. The city is not trying to sneak the Tier C projects into the process but they are trying to save the government money in the phases where they know the projects are close to being fully funded by having one contract.

Chairperson Denys commented only project is fully funded in Tier A so the implication is if the request to bundled is granted they would indeed move the Tier C projects to Tier A. It is not the intent to jeopardize the project on Tier A. She asked for direction on leaving the project on Tier A stand and asking the city to come back with more definition for the projects on Tiers B and C to see if it is possible to bundle.

Ms. Bollenback stated when there is an opportunity for a better approach, there needs to be a full discussion. The city is trying to get LAP certified and is working with the county trying to find a way to navigate this. There are still questions that need to be resolved before coming back with a final recommendation. The TPO wants the board to think about this and how the TPO can help one of its members with a more sound approach. The TPO will continue to seek the answers needed.

Chairperson Denys stated the board wants to encourage a common scale for everything discussed today. These projects are not yet defined and something undefined cannot be completed.

Council Member Wheeler asked if the board approves the Tier A project that is being postponed if they can come back later to ask for the bundling when the projects are more defined.
Chairperson Denys replied no.

Ms. Bollenback explained the city is looking for a deferral to give them time to get the LAP certification whether they bundle or not.

Councilman Schoenherr agreed there are too many feasibility and policy questions and it needs more time.

Commissioner Byrnes stated if the concern is the Tier C projects being moved up, then the city would request that only the Tier A and Tier B projects be bundled.

Chairperson Denys replied only one project is currently funded. She encouraged Ms. Bollenback and the TPO staff to work with the city to see what can be defined for the other four projects.

C. Presentation and Discussion of the 2018 R2CTPO Annual Planning Retreat

Chairperson Denys stated a term was used earlier in the TIP discussion; “fiber optics infrastructure emerging technologies and systems”. The lion’s share of the TPO’s money goes into concrete, hard infrastructure and capital improvements but the emerging technology and keeping all of the systems connected is going to be a high dollar ticket item.

Ms. Blankenship gave a PowerPoint presentation of the 2018 R2CTPO Annual Planning Retreat and stated it was held Friday, March 23, 2018 at the Brannon Center in New Smyrna Beach in partnership with Volusia County Association for Responsible Development (VCARD). There were 126 attendees including TPO Board advisory committee members, press, citizens, consultants, city and government staff, as well as VCARD members. The purpose of the retreat was to provide a forum to discuss and explore current and future transportation technology. It also incorporated some of the TPO’s core planning elements including the 2045 Long Range Transportation Plan (LRTP) and how the TPO will include advancing technologies. She reviewed the opening exercise, the five presentations and presenters. She showed a video on how the “Travel Safely” app works. She explained the different vehicles on display and stated test rides were given in the autonomous Tesla; the “Travel Safely” app was used in that vehicle. She stated the TPO conducted a post-retreat survey and the results were positive; respondents rated the retreat nine out of ten in satisfaction. The survey suggested topics for next year’s retreat and the top selection was “Transportation in Supporting Economic Development” followed by “What Will Transportation Look Like in the Next 25 Years”. All the presentations given at the retreat are available on the TPO’s website.

Discussion ensued regarding autonomous vehicles.

Chairperson Denys stated it was a great retreat with a wonderful turnout; very informative and interactive.

D. Presentation and Discussion of the R2CTPO Transportation Systems Management & Operations (TSM&O) Master Plan

Mr. Dale Cody, Vice President, Metric Engineering, gave a PowerPoint presentation of the R2CTPO Transportation System Management and Operations (TSM&O) Master Plan. He explained that TSM&O includes strategies that use technology to leverage existing roadway infrastructure such as traffic signals. Typically, these are actively managed with real-time operations and not something that has been traditionally funded through an MPO. TSM&O can identify detector failures, assist with evacuations, incident management and surveillance to allow operators to view the roadways and incidents in real-time. To do this, appropriate staffing and resources are needed to expand the infrastructure, fill gaps in fiber optics, etc. Currently, TSM&O is funded below the level recommended by FHWA. Interagency cooperation and data sharing with other agencies is very important. The results of effective TSM&O are fewer unnecessary delays, smooth evacuations and improved incident management. Also, we will be able to do performance measurements, leverage FDOT assets and increase efficiency for lower costs than traditional roadway improvements. He reviewed the strategies from implementation and potential avenues for
funding. TSM&O benefits all users of the roadway systems and makes the transportation system more reliable and consistent.

Commissioner Byrnes commented that part of operations and management should be a central location to contact for assistance. The changes made in the traffic light system have changed the way cars turn and in some places stopped traffic for longer lengths of time and he has noticed people have lost respect for the traffic system. It is hard as a commissioner to know who to contact with issues; some things are controlled by the county, the state or even the federal government.

Mr. Cody replied one of the advantages to an operations and management plan is there are people that can field those calls. One of the goals is to have the ability to evaluate and address calls in real time. All the traffic boxes can currently tell us what is bad but the problem is having someone receive that information and sending it to a maintenance person to make the repair.

Commissioner Gilliland asked how this would be integrated into the existing management systems in the community.

Mr. Cody replied the signal system and communication system have been rolled into this; this is an expansion of the system, how to leverage it and do it better.

E. FDOT Report

The FDOT report was provided in the agenda. Ms. Wyche stated there have been no changes and projects are moving on schedule.

VII. Executive Director’s Report

Ms. Bollenback announced the TIGER Grant notice has been issued and there is a significant increase in the program. TPO staff will forward that information to board members.

Ms. Bollenback stated she is part of a leadership group and serves as the Vice Chair to the MPOAC for MPO Directors. She spent the last couple of days in Tallahassee. The Central Office Planning staff meets with MPO Directors and the Chair and Vice Chair of the MPOAC twice a year to discuss what inconsistencies there may be, what policy issues there may be and how to work better together at the state level. It was a very beneficial meeting.

Ms. Bollenback stated most of the Executive Director’s Report items have basic updates and she will send a follow-up email to address them.

→ Update on FY 2018/18 SU Funding

→ Update on Roundtable of Volusia County Elected Officials

→ Status Update on Flagler County Transit Operation Plan

→ Update on Regional Truck Parking Study

→ Update on Volusia County Bus Stop Improvement Plan

→ Update on Annual Call for Projects

Ms. Bollenback stated the TPO received a lower than typical number of project applications this year. For Traffic Operations, three feasibility study applications were received; seven for project implementation and four applications for planning studies were received. For bicycle/pedestrian projects, six feasibility study
applications and seven project implementation applications were received. Each of the subcommittees has met and a BPAC Project Review Subcommittee meeting is scheduled for later today. Volusia County submitted an application for the interchange at Maytown Road; it is in the Long Range Transportation Plan (LRTP) and is a developer funded project. She consulted with FDOT District 5 and Tallahassee; they concurred the point of the priority project list is for projects that need funding but this is a developer funded project. TPO staff will confer with county staff about their reasoning for submitting the application. FDOT is not clear why a project would be on the list if it does not require funding. There is also a concern that it might eventually compete for funding with other interchanges the TPO is trying to advance. There was also an application submitted for the Saxon Boulevard/Normandy Boulevard intersection in Deltona for improvements to vehicle operations and pedestrian mobility. The request is for grade separated pedestrian crossings. The BPAC Project Review Subcommittee declined to score the project; they were uncomfortable with the request, the expense and the approach. The city of Deltona can modify the request or request through the committees if they wish to pursue it. TPO staff will come back with recommendations for the priority list next month. There will be a lot of changes to the list because so many projects have been advanced.

VIII. River to Sea TPO Board Member Comments

Vice Mayor Matusick requested a brief overview of the Regional Truck Parking Study.

Ms. Bollenback replied the stakeholder meeting was cancelled so there is no update.

Secretary Shannon stated the study is still underway and is not completed. FDOT asked the consultants to provide more information and he should have it before the next meeting.

Chairperson Denys acknowledged Vice Mayor Matusick for the “Sand and Stars” Bike Tour; she organized the tour with Bike Florida that brought in over 600 participants to Edgewater and Southeast Volusia County’s trails.

Vice Mayor Matusick recognized Ms. Colleen Nicoulin, TPO staff, who took over for her as Chair of Bike Florida. It was a great event; everyone loved Edgewater and the city was very accommodating.

Vice Mayor Matusick stated it is an election year and this position on the TPO Board is a hard position to fill and learn. For those that are not running again or have term limits, it is very important to set an alternate. Her alternate, Commissioner Chris Cloudman, has been attending the meetings and also attended the MPOAC Institute for training. She urged board members to consider it; it will help the board and their cities to have someone that can be prepared to fill in for them.

Volusia County Council Chair Kelley announced the half-cent sales tax will be agenda’d for the Volusia County Council on Tuesday, May 1, 2018 at 10:10 am. He encouraged members to be there to show support for allowing the people to vote for it to correct the deficiencies we currently have. These are real issues and it is necessary to find the funding to take care of what has happened. All sixteen cities have adopted the resolution and he expects the county will allow it to be voted on.

Commissioner Gilliland stated he has read the revised language for the ballot initiative. The original language was broad in scope but the new language limits it to roads, sidewalks, bridges, water quality, storm water, flood control and amenities ancillary to those facilities. It is a narrower scope of projects that could be funded with this money. He encouraged members to put together a strong list that is meaningful to their constituents if they are in favor of the tax. The city of Daytona Beach is meeting at 4:30 pm today to discuss its list because they think the original list was too broad and too vague. A street resurfacing program is something that will affect everyone in the community. He wants to look at the Safe Routes to School Studies that were done to see if they can be worked into their program; there were eight or ten in Daytona Beach. The list needs to be meaningful to the voter as well.

Council Member Patterson announced he and TPO Chairperson Denys recently cut the ribbon at the opening of the Spring to Spring Trail through the Glenwood area. There is an eight-mile mountain biking trail in Chuck.
Lennon Park in DeLeon Springs and is one of the most heavily used in the state of Florida. It is expanding to ten-miles and will become a national destination and be recognized for that.

Commissioner Nabicht stated Vice Mayor John Rogers, Bunnell, also owns a tow truck company. Vice Mayor Rogers contacted him to let him know the American Towman Association has a campaign called “Spirit Ride” about “slow down and move over”. He had the honor of using one of his flatbed tow trucks to carry a casket to bring awareness of “slow down and move over”. He brought it through Flagler County with a law enforcement escort; Volusia County Sheriff Chitwood arranged to have deputies meet him at the county line to bring it through Volusia County. They stopped at Deltona City Hall where some elected officials spoke. It was streamed live on Facebook. He thanked Vice Mayor Rogers for his efforts in bringing awareness in keeping our first responders and highway workers safe.

Commissioner McLaughlin stated the Spirit Ride did come through Flagler County; it was especially poignant because a flagman recently lost his life on a paving project.

Council Member Wheeler stated she was at the ribbon cutting for Jeep Beach which started yesterday at One Daytona. She encouraged members to support them and announced they are having a big event Thursday night on Main Street. This organization raised $350,000 for the community last year for different funding areas including the Boys and Girls Club. They are looking to raise $500,000 this year and are reaching for a million.

IX. Information Items
   → Citizens Advisory Committee Attendance Record – 2018
   → Technical Coordinating Committee Attendance Report – 2018
   → Bicycle/Pedestrian Advisory Committee Attendance Record – 2018
   → March TPO Outreach and Activities
   → Regional Resiliency Action Plan Listening Session

X. Adjournment

There being no further business, the River to Sea TPO Board meeting adjourned at 10:48 a.m.

RIVER TO SEA TRANSPORTATION PLANNING ORGANIZATION

VOLUSIA COUNTY COUNCIL VICE CHAIR DEB DENYS
CHAIRPERSON, RIVER TO SEA TPO

CERTIFICATE:

The undersigned, duly qualified and acting Recording Secretary of the River to Sea TPO Board certifies that the foregoing is a true and correct copy of the minutes of the April 25, 2018 regular meeting of the River to Sea Transportation Planning Organization (TPO) Board, approved and duly signed this 23rd day of May 2018.

DEBBIE STEWART, RECORDING SECRETARY
RIVER TO SEA TRANSPORTATION PLANNING ORGANIZATION
TPO Annual Planning Retreat Summary
Friday, March 23, 2018
9:00 a.m. – 12:00 a.m.
Brannon Civic Center
New Smyrna Beach

On Friday, March 23, 2018, the River to Sea TPO, in partnership with the Volusia County Association for Responsible Development (VCARD), held its annual planning retreat at the Brannon Civic Center in New Smyrna Beach. The focus of the retreat was the "Future of Transportation Technology." There were 126 attendees present including members from the River to Sea TPO Board and advisory committee, VCARD members, city and county government staff representatives, interested citizens, consultants and press.

PURPOSE

The purpose of the retreat was to provide a casual and engaging forum within which current and future transportation technologies, including automated, connected, electric and shared (ACES) vehicles, could be introduced and explored and ideas could be shared. The planning retreat was designed to incorporate several core planning elements of the TPO including:

- Increasing awareness of the Transportation Systems Management and Operations (TSM&O) master planning activity that is currently underway;
- ACES vehicle planning and the upcoming automated vehicle study that will be initiated;
- Long Range Transportation Planning and the influences of advancing technologies; and
- Public outreach (involving citizen advisors and partnering with the Chamber of Commerce)

The event began with a welcome and introductions from River to Sea TPO Chairperson Deb Denys and VCARD Chairperson Maria Summerlin (an agenda is attached). To kick off the retreat, R2CTPO Executive Director Lois Bollenback directed participants at each table to answer a series of questions regarding their personal use of transportation technology including the Uber, Lyft and Life360 apps, as well as their utilization of electric and/or hybrid vehicles. Responses were gathered by the leader for each table and then shared among the attendees (handout attached).

PRESENTATIONS – Session 1

The first set of presentations included a panel of industry experts that focused on the emerging technologies that are expected to be deployed in the next five to ten years and the technology and infrastructure associated with smart cities and ACES vehicles.

- Mr. Nelson Caparas, Traffic Engineering Manager for Alfred Benesch & Company: Mr. Caparas' presentation reviewed the definition of a "smart city" in regards to technology and its components. He reviewed how the Internet of Things (IoT), a system of internet connected
devices, objects or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interact, is required to be a smart city.

- Mr. Kris Milster, Director of Government Accounts with Traffic Technology Services, Inc. (TTS): Mr. Milster explained autonomous vehicles' connectivity to elements of the roadway system and various methods that could be used to institute the vehicles. He noted that his company Traffic Technology Services, Inc. works off the information that is already being generated by the traffic signal systems to predict information for vehicles. He reviewed the interconnected relationships between governments, partners, TTS, customers and end users.

- Mr. Sheldon Pafford, Florida Sales Representative with Temple, Inc., and Mr. Chris Holloway, Southeast Business Development Manager for Applied Information, Inc.: Mr. Pafford and Mr. Holloway spoke about ways to make transportation technology easier to deploy and maintain. They discussed the TravelSafe app and its functions. This app uses technology to connect cell phones to a network of traffic intersections, school beacons, motorists, cyclists and pedestrians. It utilizes audible warnings to alert drivers of dangerous conditions.

**INTERACTIVE EXERCISE**

Following the first three presentations, an interactive discussion was held where a series of questions were posed to the audience regarding transportation technology. The questions asked focused on the implementation and funding of technology as well as the impact technology will have on traditional capacity infrastructure; how communities may change as these technologies become more common. Several questions were repeated from a previous polling exercise conducted during the 2016 TPO Retreat to gauge changing awareness of transportation technology in recent years. Audience responses were generated through the use of interactive polling clickers (results attached).
During the break, participants were able to view the vehicles on display including: an autonomous Maritime RobotX Boat (provided by ERAU), a modified “eco-friendly” Chevy Camaro (provided by ERAU), a fully electric and autonomous Tesla X (provided by Applied Information Inc.) and a fully autonomous Ford Escape used in a Defense Advanced Research Projects Agency (DARPA) challenge which required robotic vehicles to travel more than 56 miles through an urban environment without human intervention and included situations such as stop intersections, traffic merges, parking and roadblocks (vehicle provided by ERAU). Technical staff were on hand to answer questions and provide demonstration rides in the Tesla X to introduce riders to in-vehicle technology (electric and automated) as well as connected vehicle technology. Local traffic signals were activated to provide signal information to a smart phone app used in the vehicle.
PRESENTATIONS – Session 2

The final two presentations introduced a number of considerations regarding the changes influenced by emerging technologies. These changes included land use planning, policy/legislation and economics and funding. These changes tie in with the Connected and Automated Vehicle (CAV) Study the River to Sea TPO will be undertaking in the next fiscal year which will help identify strategies to address challenges on subjects such as these (land use considerations, infrastructure improvements and policy changes). The presentations also introduced generational and societal changes, business trends and the work underway at Embry-Riddle Aeronautical University.

- Dr. Abby Morgan, Connected and Automated Vehicle Project Manager for Kittelson & Associates, Inc., covered the ways policies are evolving with emerging technologies as well as each component of ACES vehicles. She defined the levels of vehicle automation. She noted the River to Sea TPO's TSM&O Master Plan’s focus was on identifying and prioritizing cost-effective technology deployments and developing operational strategies to realize increased performance of the transportation system. Dr. Morgan also discussed ways to manage curb space and parking requirements.

- Dr. Charles Reinholtz, Professor and former Chair of the Mechanical Engineering Department at Embry-Riddle Aeronautical University, discussed the societal changes that are driving technology; the differences in today's generation in relation to transportation preferences. He explained some of the reasons safety may ultimately expedite vehicle automation; this was backed up with crash statistics from the River to Sea TPO's Crash Analysis Report. Information was also presented on the Embry-Riddle Aeronautical University vehicles that were provided for display.

CLOSING ACTIVITIES

Subsequent to the final presentation, the audience engaged in a question and answer period directed towards the expert panel. Participants were also able to view the display vehicles after the sessions ended.
As we continue to plan for our future, the River to Sea TPO will look to incorporate strategies to accommodate the advances of emerging transportation technologies in the development of our next Long Range Transportation Plan (LRTP) update. The LRTP is a policy document that guides the TPO in the development, management and operation of a safe and efficient transportation system over the next 25 years. In the development of the 2045 LRTP, the TPO must consider the infrastructure and technological improvements necessary to accommodate advances in vehicle technology (such as autonomous technology).

A list of the River to Sea TPO’s current and upcoming Transportation Technology projects was provided (attached) to the attendees. This list included information on adaptive traffic signal control system infrastructure projects that are existing, planned and/or programmed in the TPO planning area. Also of note were a number of planning studies that are currently underway or are expected to begin shortly.

A list of informative resources was also provided to the attendees to provide additional information on transportation technology (attached). These resources included information on connected cars and their effect on the auto industry and cities; Waymo’s self-driving cars; and driverless car regulation information.

All of the speakers’ presentations and additional photos are available on the TPO’s website at: https://www.r2ctpo.org/public-involvement/community-presentations/

**FOLLOW-UP**

A follow-up survey was distributed to participants to evaluate the overall retreat. A total of 29 responses were received. Some of the questions posed focused on the purpose of the retreat, the appropriateness of the venue where the retreat was held, the usefulness of the information presented as well as overall satisfaction with the event. Responses were generally positive with overall satisfaction with the retreat being ranked 9 out of 10 point scale. Additionally, the survey asked for input on the theme for next year’s retreat with the majority of responses voting for the topic of “transportation in supporting economic development” followed by “what will transportation look like in the next 25 years?”
Annual Retreat
Friday, March 23rd
9:00 a.m. – 12:00 noon / 8:30 a.m. Registration Opens
Brannon Civic Center, New Smyrna Beach FL

8:30 a.m.  Registration / Breakfast / Vehicle Display

9:00 a.m.  Welcome Remarks / Introduction
Volusia County Council Vice Chair Deb Denys  Maria Summerlin, S&ME
River to Sea TPO Board Chair  VCARD Board Chair

9:15 a.m.  Opening Exercise #1

9:30 a.m.  PART I:  Transportation Technology on the Horizon
Speakers:  Nelson D. Caparas, P.E., Alfred Benesch & Company
           Sheldon Pafford, Temple, Inc.
           Chris Holloway, Applied Information
           Kris Milster, P.E., PTOE, Traffic Technology Services, Inc.

10:00 a.m.  Exercise #2 / Break / Vehicle Display

10:30 a.m.  PART 2:  Transportation Technology Influencing Our Future
Speakers:  Abby Morgan, Ph.D., P.E., Kittelson & Associates, Inc.
           Charles Reinholtz, Ph.D., Embry-Riddle Aeronautical University

11:00 a.m.  Questions & Answers

11:30 a.m.  Closing Remarks
2018 Annual Planning Retreat on
Emerging Transportation Technologies
Exercise #1

Thank you for taking the lead at your table!!

Please review these questions with others at your table to collect the information requested.

Don’t worry - you won’t be asked to address the crowd.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How many people at the table have a transportation network app (Uber, Lyft or other) on their smart phone?</td>
<td>#_________</td>
</tr>
<tr>
<td>2. Approximately how many total rides did members take in the past year using one of these services?</td>
<td>#_________</td>
</tr>
<tr>
<td>3. Thinking back 5 years, how many members had one of these apps on their smart phone?</td>
<td>#_________</td>
</tr>
<tr>
<td>4. Does anyone at your table:</td>
<td></td>
</tr>
<tr>
<td>a. Use the Life360 app (or similar technology) to track driving behavior?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>b. Have a car with Alexa voice integration?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>c. Have a car that uses a parking assist, automatic breaking or lane departure feature?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>d. Own an electric or hybrid electric vehicle?</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

A.C.E.S
1.) What group do you represent with your attendance today? (multiple choice)

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested citizen/resident</td>
<td>9</td>
</tr>
<tr>
<td>Private Sector Business</td>
<td>16</td>
</tr>
<tr>
<td>Public Sector Organization</td>
<td>41</td>
</tr>
<tr>
<td>Institutional Representative</td>
<td>3</td>
</tr>
<tr>
<td>Elected Official (a.k.a. representing all of the above)</td>
<td>13</td>
</tr>
<tr>
<td>Totals</td>
<td>82</td>
</tr>
</tbody>
</table>

2.) When new technology comes out such as smart TV's, Firesticks, or a new iPhone, I: (multiple choice)

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Let others test the device before I make a purchase</td>
<td>60</td>
</tr>
<tr>
<td>Like to be on the cutting edge, so I buy one right away</td>
<td>12</td>
</tr>
<tr>
<td>Pour a glass of wine and reminisce about the good old days</td>
<td>15</td>
</tr>
<tr>
<td>Totals</td>
<td>87</td>
</tr>
</tbody>
</table>
3.) Transportation technology is advancing at a rapid pace. The primary delay in implementing new technology in this planning area is? (multiple choice) Responses

<table>
<thead>
<tr>
<th>Delay Description</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The general public isn’t ready for such quick change</td>
<td>13</td>
<td>14.94%</td>
</tr>
<tr>
<td>The really bold technologies aren’t ready for deployment</td>
<td>9</td>
<td>10.34%</td>
</tr>
<tr>
<td>Funding new projects takes time and we have other more</td>
<td>24</td>
<td>27.59%</td>
</tr>
<tr>
<td>The cost of new technology is still too high</td>
<td>22</td>
<td>25.29%</td>
</tr>
<tr>
<td>More information is needed to understand the benefits of</td>
<td>19</td>
<td>21.84%</td>
</tr>
<tr>
<td>Totals</td>
<td>87</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.) On average, what percentage of vehicle crashes are due to human error? (multiple choice) Responses

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>45</td>
<td>1</td>
<td>1.18%</td>
</tr>
<tr>
<td>60</td>
<td>5</td>
<td>5.88%</td>
</tr>
<tr>
<td>75</td>
<td>18</td>
<td>21.18%</td>
</tr>
<tr>
<td>90</td>
<td>61</td>
<td>71.76%</td>
</tr>
<tr>
<td>Totals</td>
<td>85</td>
<td>100%</td>
</tr>
</tbody>
</table>

Estimates attributing vehicle crashes to human error range from 90 to 99%
5.) Would you feel safe on the roads today (driving, walking or biking) with fully autonomous vehicles? (multiple choice) 

<table>
<thead>
<tr>
<th>Response</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>27</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>Only in limited environments</td>
<td>43</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>85</strong></td>
</tr>
</tbody>
</table>

6.) In the year 2040, the horizon of our current long range plan, private automobile insurance is expected to shrink by how much as a result of improved transportation technologies? (multiple choice) 

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>5</td>
<td>5.75%</td>
</tr>
<tr>
<td>20%</td>
<td>27</td>
<td>31.03%</td>
</tr>
<tr>
<td>40%</td>
<td>25</td>
<td>28.74%</td>
</tr>
<tr>
<td>60%</td>
<td>17</td>
<td>19.54%</td>
</tr>
<tr>
<td>80%</td>
<td>13</td>
<td>14.94%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>87</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Estimates regarding auto insurance include:
- Cost shifts to premium discounts for cars with advanced safety features
- Reduced rates & declines in individual premiums beginning in 2024-26
- Cyber security/product liability/infrastructure replacing traditional insurance
7.) What percentage of overall vehicle sales are expected to be electric vehicles in the year 2040? (multiple choice)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>22%</td>
<td>1</td>
</tr>
<tr>
<td>34%</td>
<td>7</td>
</tr>
<tr>
<td>54%</td>
<td>27</td>
</tr>
<tr>
<td>72%</td>
<td>29</td>
</tr>
<tr>
<td>93%</td>
<td>24</td>
</tr>
<tr>
<td>Totals</td>
<td>88</td>
</tr>
</tbody>
</table>

8.) Do you believe funding at the national level will change to a vehicle-miles-travelled (VMT) tax within the 2040 planning horizon? (multiple choice)

<table>
<thead>
<tr>
<th>Response</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>55</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>A different change</td>
<td>25</td>
</tr>
<tr>
<td>Totals</td>
<td>85</td>
</tr>
</tbody>
</table>
9.) What impact will the implementation of advanced vehicle technology, ride sharing services (Uber & Lyft), electronic communication (telecommuting, video-conferencing, etc.) and e-commerce will have on the need for traditional capacity infrastructure projects in the next 10 to 20 years:

<table>
<thead>
<tr>
<th>(multiple choice)</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminate the need for additional infrastructure</td>
<td>4</td>
</tr>
<tr>
<td>Significantly reduce the need for additional capacity</td>
<td>39</td>
</tr>
<tr>
<td>Have a minor influence in decision-making during that time</td>
<td>22</td>
</tr>
<tr>
<td>Will not change decision-making for needed capacity projects</td>
<td>16</td>
</tr>
<tr>
<td>Totals</td>
<td>81</td>
</tr>
</tbody>
</table>

10.) Car sharing networks reported roughly 1.7 million members in 2012. What are the estimates for 2020 (in millions)? (multiple choice)

<table>
<thead>
<tr>
<th>(multiple choice)</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>8</td>
<td>31</td>
</tr>
<tr>
<td><strong>12</strong></td>
<td><strong>25</strong></td>
</tr>
<tr>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>Totals</td>
<td>89</td>
</tr>
</tbody>
</table>
11.) Florida laws permitting autonomous vehicles with an operator: (multiple choice)  

<table>
<thead>
<tr>
<th>Response</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are currently being considered</td>
<td>17</td>
</tr>
<tr>
<td>Require a special license or permit</td>
<td>3</td>
</tr>
<tr>
<td>Were established in 2012</td>
<td>25</td>
</tr>
<tr>
<td>Were established in 2017</td>
<td>35</td>
</tr>
<tr>
<td>Totals</td>
<td>80</td>
</tr>
</tbody>
</table>

F.S. 316.85  Autonomous vehicles; operation
- “A person who possesses a valid driver license may operate an autonomous vehicle”
- “a person shall be deemed to be the operator of an autonomous vehicle operating in autonomous mode when the person causes the vehicle’s autonomous technology to engage, regardless of whether the person is physically present in the vehicle”
River to Sea TPO Transportation Technology Projects

Infrastructure Projects — Planned & Programmed

**Adaptive Traffic Signal Control System** is a technology-based traffic management strategy in which traffic signal timings change, or adapt, based on actual traffic demand. This is accomplished using both hardware and software and will ultimately lead to reduced congestion, improved travel time reliability, increased safety and environmental benefits.

The River to Sea TPO currently has five Adaptive Traffic Signal Control System projects identified as priorities for funding and implementation as well as support for the development of a traffic management center:
- In Ormond Beach on Granada Blvd. (SR 40), from Tymber Creek Rd. to A1A
- In Port Orange on Dunlawton Blvd. (SR 421), from Summertrees Blvd. to US 1
- In New Smyrna Beach on SR 44, from Airport Rd. to East 3rd Ave.
- In Unincorporated Volusia County on LPGA Blvd., from I-95 interchange to Clyde Morris Boulevard
- In Orange City and DeLand on Saxon Blvd., from Marketplace Dr. to Normandy Blvd.
- Relocation of fiber optic cables to the Volusia County Traffic Management Center in New Smyrna Beach

Infrastructure Projects — Existing

- In Daytona Beach on International Speedway Blvd. (US 92) — adaptive signals
- In DeLand on Woodland Blvd. (US 17/92) — adaptive signals

Planning Studies

**Transportation Systems Management & Operations (TSM&O) Master Plan** — Rather than attempting to increase transportation capacity and efficiency through traditional methods, such as roadway widenings, TSM&O strategies provide alternative means to meet the ever increasing demands on the transportation network. The River to Sea TPO is currently developing a TSM&O Master Plan to identify and prioritize cost-effective technology deployments and develop operational strategies to realize increased performance of the transportation system.

**Connected and Automated Vehicle (CAV) Study** — No longer a question of “if”, but “when”, the deployment of CAVs will present new challenges for transportation agencies. In the next fiscal year, the River to Sea TPO will undertake a study to help identify strategies to address these challenges on subjects including, but not limited to, infrastructure improvements, land use considerations, and policy changes.

**Long Range Transportation Plan (LRTP)** — Updated every five years, the LRTP is a policy document that guides the TPO in the development, management, and operation of a safe and efficient transportation system. As we continue to plan for the future, the River to Sea TPO will look to incorporate strategies to accommodate the advances of emerging transportation technologies in the development of the next LRTP update.
Transportation Technology Resources

Connected Cars and their effect on the Industry and Cities
- “Connected cars make money for automakers in a new way” from CNET: https://www.youtube.com/watch?v=sDk9Pn49vgc
- “What a driverless world could look like” from TED Talks: https://www.youtube.com/watch?v=Q1LFK8oSNEM

Driverless Shuttle in Tampa
- “Driverless shuttle coming to Tampa” from ABC Action News: https://www.youtube.com/watch?v=Pjfo70VHi1Q

The Connected Car and Automated Vehicles
- “Connected and Automated Vehicles” from the Center for Advanced Automotive Technology: http://autocat.org/Technologies/Automated_and_Connected_Vehicles
- “Florida Automated Vehicles” from FDOT: http://www.automatedfl.com/
- “An introduction to autonomous vehicles” from the Federation of International Automobiles (FIA): https://www.youtube.com/watch?v=HgF7E5q9sU4

Waymo’s Self Driving Cars
- “Waymo’s fully self-driving cars are here” from Waymo: https://www.youtube.com/watch?v=aaOB-Eryg6Y
- Waymo website: https://waymo.com/
- “Waymo 360” Experience: A Fully Self-Driving Journey” https://www.youtube.com/watch?v=B8R148hFxPw

Driverless Car Regulations
- “Driverless Cars: Innovating Regulation” from the Federalist Society: https://www.youtube.com/watch?v=SSLZYNBxals