



## **BACKGROUND**

On February 5, 2016, members of the River to Sea Transportation Planning Organization (R2CTPO) Board, as well as the Citizens' Advisory Committee (CAC), Technical Coordinating Committee (TCC), Bicycle/Pedestrian Advisory Committee (BPAC) and Transportation Disadvantaged Local Coordinating Board (TDLCB) met for their annual retreat. Additional staff from member jurisdictions, private sector planning professionals, press and citizens attended the retreat. Overall, more than 50 individuals involved in transportation in Volusia and Flagler Counties participated.

The objectives of the retreat were to:

- Review advanced transportation technologies currently being developed and deployed;
- Discuss the potential impacts of new technologies on system safety, management and planning;
- Explore opportunities and challenges presented by new technology in the short and long term; and
- Consider planning activities, costs, policy and the role of the TPO in advancing technology.

Presentations at the retreat were delivered by Ms. Lois Bollenback, River to Sea TPO Executive Director, and Mr. Dale Cody, Metric Engineering, Inc. Mr. Cody is a former FDOT District 5 Assistant District Traffic Operations Engineer and currently serves as the Senior Vice President of Metric Engineering, Inc. He has more than 20 years of hands-on experience in all aspects of Intelligent Transportation Systems (ITS), tolling and traffic signal systems communication, planning, design, integration, operations and construction management. Mr. Cody has served as the Project Manager or Principal-in-Charge on more than 60 ITS projects and over 50 signalization projects.

## **WELCOME AND INTRODUCTIONS**

After the morning reception and registration, the retreat session began at 9:00 am as scheduled with a welcome by Lois Bollenback, Executive Director of River to Sea TPO. Ms. Bollenback recognized and thanked various groups in attendance including citizen representatives and professional planners and consultants. She introduced R2CTPO Board Chairman and Volusia County Council Member Pat Patterson who also welcomed participants and introduced the city and county elected officials that were present.

## **OPENING ICEBREAKER EXERCISE**

To begin the retreat, Ms. Bollenback led participants in an interactive exercise to familiarize the attendees with the interactive response-ware or “clickers” being used. Ten general survey questions were posed to the retreat participants who responded using the devices.

## **PRESENTATION: WHAT ARE INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND WHAT DO THEY DO?**

Ms. Bollenback provided a broad overview of the changing technology both within and outside the transportation field. She discussed the current focus on Intelligent Transportation Systems (ITS) technology and the pace at which technology was being deployed. Ms. Bollenback offered a series of questions to the audience to encourage them to think about the potential impacts of technology on transportation safety, the automobile insurance industry, vehicle fueling, car sharing, traffic congestion and change in society.

## **PRESENTATION: TRANSPORTATION SYSTEM TECHNOLOGY – PART ONE**

Mr. Dale Cody gave a PowerPoint presentation on transportation system technology that is currently in place and that which is being developed. He explained the history of ITS and what it is. Mr. Cody explained that intelligent transportation systems are defined by FDOT as the application of advanced information and communications technology to surface transportation in order to achieve enhanced safety and mobility while reducing the environmental impact of transportation. ITS systems monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity and save lives, time & money. Intelligent transportation systems include closed circuit television systems, dynamic messaging signs, vehicle detection systems, travel time systems and network/master hubs (regional traffic management centers). He also reviewed the benefits of ITS which include the management of traffic flow, enhancement of safety, the reduction of congestion and enhanced productivity. There are a number of ways that ITS operations are carried out; these include freeway management systems, traffic incident management and traffic signal systems management. He noted that the State of Florida implemented ITS solutions in the late 1990s and is one of the leading states in the nation in deploying ITS technology.

## **PRESENTATION: HOW DO WE GET MORE INTELLIGENT IN OUR PLANNING AREA?**

Using the clickers, Ms. Bollenback led an interactive discussion about the use of transportation technology in the TPO planning area. The discussion continued to

explore possible impacts of technology to transportation delivery, system performance, community planning, alternative fuels and alternative vehicles. She encouraged consideration of the role of the public and private sector in implementing change. She also noted that US 92 (International Speedway Boulevard) and US 17/92 (Woodland Boulevard) currently have coordinated traffic signal systems. State route 40 (Granada Boulevard) is in the process of instituting a coordinated traffic signal system.

## **PRESENTATION: TRANSPORTATION SYSTEM TECHNOLOGY – PART TWO**

Mr. Cody continued his PowerPoint presentation regarding advanced technologies in transportation. He explained further defined ITS strategies that are currently in place including local and regional strategies. He then delineated between connected vehicles, automated vehicles and autonomous vehicles. Connected vehicles are those which have technologies such as rear view cameras, adaptive cruise control or automated braking; these cars will quickly identify roadway hazards and alert the driver. Automated vehicle are those in which at least some aspect of a safety-critical control function (i.e., steering or braking) occurs without direct driver input; these cars will steer and brake for the driver. Autonomous vehicles are capable of sensing their environments and navigating without any human input. A YouTube video was then shown of a man experiencing a drive in an autonomous Tesla vehicle ([https://www.youtube.com/watch?v=3yCAZWdqX\\_Y](https://www.youtube.com/watch?v=3yCAZWdqX_Y)). Mr. Cody closed his presentation with a discussion on the need for careful planning in order to deploy the appropriate technologies and the need for coordination in this effort.

## **FINAL QUESTIONS AND COMMENTS**

Mr. Cody led a question and answer session. Questions were posed from the attendees about autonomous vehicles and their technology.

Ms. Bollenback directed the participants in a final survey session which consisted of questions regarding the success of the retreat. Participants “clicked” their responses to ten questions ranging from the usefulness of the agenda to what the next steps will be following the retreat. Overall, the rating received was 4.6 out of 5. The results of all the questions asked during the retreat are attached.

Turning Results by Question

Session Name: TPO 2 Session 2-5-2016 11-12 AM

Created: 2/5/2016 5:41 PM

1.) A. On Super Bowl Sunday, I will be: (multiple choice)

- Rooting for the Denver Bronco's.
- Cheering for the Carolina Panthers.
- Watching, but it doesn't matter who wins.
- Doing something else with my free time.

Responses	
(percent)	(count)
0%	0
100%	1
0%	0
0%	0
<b>Totals</b>	<b>100% 1</b>

2.) A. On Super Bowl Sunday, I will be: (multiple choice)

- Rooting for the Denver Bronco's.
- Cheering for the Carolina Panthers.
- Watching, but it doesn't matter who wins.
- Doing something else with my free time.

Responses	
(percent)	(count)
0%	0
100%	1
0%	0
0%	0
<b>Totals</b>	<b>100% 1</b>

3.) A. On Super Bowl Sunday, I will be: (multiple choice)

- Rooting for the Denver Bronco's.
- Cheering for the Carolina Panthers.
- Watching, but it doesn't matter who wins.
- Doing something else with my free time.

Responses	
(percent)	(count)
29.17%	14
10.42%	5
35.42%	17
25%	12
<b>Totals</b>	<b>100% 48</b>

4.) B. The best feature of the River to Sea TPO website is: (multiple choice)

- The ability to see meeting agendas and minutes.
- The ease of accessing TPO documents, studies and reports.
- The impressive listing of staff credentials and their photos.
- Wait – the TPO has a website?

Responses	
(percent)	(count)
25%	11
50%	22
6.82%	3
18.18%	8
<b>Totals</b>	<b>100% 44</b>

5.) C. When new technology comes out such as smart TVs or the new iPhone, I: (multiple choice)

- Do my homework before I decide to make a purchase.
- Like to be on the cutting edge, so I buy one fast.
- Grab a beer and reminisce about the good old days.

Responses	
(percent)	(count)
55.10%	27
0%	0
44.90%	22
<b>Totals</b>	<b>100% 49</b>

6.) D. The following is one of my favorite ways to spend time: (multiple choice)

- At the golf course.
- Being on or near the water.
- Participating in sports or physical activity.
- Reading in solitude.

Responses	
(percent)	(count)
4.17%	2
45.83%	22
31.25%	15
18.75%	9
<b>Totals</b>	<b>100%</b> 48

7.) E. Three hours ago, I was: (multiple choice)

- Still in bed.
- Doing my morning exercises.
- Enjoying my first cup of coffee.

Responses	
(percent)	(count)
29.17%	14
14.58%	7
56.25%	27
<b>Totals</b>	<b>100%</b> 48

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

- 25%
- 45%
- 60%
- 75%
- 90%

Responses	
(percent)	(count)
0%	0
2.04%	1
6.12%	3
30.61%	15
61.22%	30
<b>Totals</b>	<b>100%</b> 49

9.) 2. When do you think automated vehicles will be available to the public? (multiple choice)

- They are available now.
- 2 years
- 5 years
- 10 years
- 15 years

Responses	
(percent)	(count)
28%	14
20%	10
32%	16
16%	8
4%	2
<b>Totals</b>	<b>100%</b> 50

10.) 3. Would you feel safe on the road today with fully automated vehicles? (multiple choice)

- Yes
- No
- In limited environments

Responses	
(percent)	(count)
26%	13
30%	15
44%	22
<b>Totals</b>	<b>100%</b> 50

11.) 4. Have you driven or been a passenger in a vehicle that uses technology such as automatic braking, rear end camera, adaptive cruise control? (multiple choice)

Yes  
No  
I don't know

Responses	
(percent)	(count)
75%	36
20.83%	10
4.17%	2
<b>Totals</b>	<b>100%</b>
	<b>48</b>

12.) 5. In the year 2040, the horizon of the Long Range Transportation Plan, automobile insurance is expected to shrink by how much as a result of transportation technologies? (multiple choice)

10%  
20%  
40%  
60%  
80%

Responses	
(percent)	(count)
10.42%	5
20.83%	10
37.50%	18
22.92%	11
8.33%	4
<b>Totals</b>	<b>100%</b>
	<b>48</b>

13.) 6. Of the following, which is not really a "thing"? (multiple choice)

Pulse-taker – technology that ensures the driver remains alert and awake and sober in a driverless vehicle.  
Dongle – a plug in device that sends information about your car to a smart phone app so you can track business miles, fuel use and performance.  
Snapshot – a monitoring device used by an insurance company to track driver behavior and set rates accordingly.

Responses	
(percent)	(count)
65.22%	30
15.22%	7
19.57%	9
<b>Totals</b>	<b>100%</b>
	<b>46</b>

14.) 7. In 2012, there were only about 180,000 electric cars on the road world-wide (.02% of total passenger cars). What is the expected number of electric vehicles by the year 2020? (multiple choice)

500,000  
1,800,000  
10,000,000  
20,000,000

Responses	
(percent)	(count)
0%	0
6.25%	3
54.17%	26
39.58%	19
<b>Totals</b>	<b>100%</b>
	<b>48</b>

15.) 8. The following country has issued a requirement for all gas stations to have electric car plug-in stations by November 2017? (multiple choice)

- Canada
- Japan
- Russia
- Saudi Arabia
- Sweden

Responses	
(percent)	(count)
6.38%	3
27.66%	13
0%	0
0%	0
65.96%	31
<b>Totals</b>	<b>100% 47</b>

16.) 9. At the end of 2012, there was an estimated 1.7 million members in car-sharing clubs. What are the projected estimates for 2020? (multiple choice)

- 3.4 million
- 5 million
- 8 million
- 12 million
- 16 million

Responses	
(percent)	(count)
2.13%	1
10.64%	5
29.79%	14
19.15%	9
38.30%	18
<b>Totals</b>	<b>100% 47</b>

17.) 10. Traffic congestion is costly in terms of time, money and air quality. Which of the following can be used to improve the flow of traffic? (multiple choice)

- Adding capacity (adding lanes or building new roads)
- Using technology to improve the efficiency of existing roads
- Offering alternative forms of travel (bus, rail, bike, walking)
- Changing land-use patterns to reduce trip lengths or eliminate trips
- All of the above

Responses	
(percent)	(count)
0%	0
2.13%	1
10.64%	5
2.13%	1
85.11%	40
<b>Totals</b>	<b>100% 47</b>

18.) 11. Which of the following improvements do you think will have the biggest impact toward reducing crash rates for vehicles? (multiple choice)

- In vehicle technology
- Policy changes such as reduced speeds and bans on texting
- Increased enforcement of existing laws
- Improvements in roadway design
- Driver education and awareness programs

Responses	
(percent)	(count)
57.45%	27
0%	0
4.26%	2
12.77%	6
25.53%	12
<b>Totals</b>	<b>100% 47</b>

19.) 12. Technology is advancing at a rapid pace. The primary delay in implementing new technology in this planning area is: (multiple choice)

The average person isn't ready for change  
 The really bold technologies aren't ready for prime time  
 Programming projects take a while and the life-cycle of a vehicle is long  
 The cost of technology is high and funding to deploy new systems is limited  
 There is a knowledge gap between available technology and decision-makers

	Responses (percent) (count)	
The average person isn't ready for change	19.57%	9
The really bold technologies aren't ready for prime time	2.17%	1
Programming projects take a while and the life-cycle of a vehicle is long	19.57%	9
The cost of technology is high and funding to deploy new systems is limited	32.61%	15
There is a knowledge gap between available technology and decision-makers	26.09%	12
<b>Totals</b>	<b>100%</b>	<b>46</b>

20.) 13. Which of the following was used in the 2040 LRTP to improve the flow of traffic? (multiple choice)

Adding capacity (adding lanes or building new roads)  
 Using technology to improve the efficiency of existing roads  
 Offering alternative forms of travel (bus, rail, bike, walking)  
 Changing land-use patterns to reduce trip lengths or eliminate trips  
 All of the above

	Responses (percent) (count)	
Adding capacity (adding lanes or building new roads)	0%	0
Using technology to improve the efficiency of existing roads	0%	0
Offering alternative forms of travel (bus, rail, bike, walking)	4.17%	2
Changing land-use patterns to reduce trip lengths or eliminate trips	2.08%	1
All of the above	93.75%	45
<b>Totals</b>	<b>100%</b>	<b>48</b>

21.) 14. I have downloaded the "Vo" to Go app. (multiple choice)

True  
 False

	Responses (percent) (count)	
True	21.28%	10
False	78.72%	37
<b>Totals</b>	<b>100%</b>	<b>47</b>

22.) 15. Growth in the use of electric vehicles will require significant changes to the traditional gas station. (multiple choice)

True  
 False

	Responses (percent) (count)	
True	82.22%	37
False	17.78%	8
<b>Totals</b>	<b>100%</b>	<b>45</b>

23.) 16. The market-place will determine the demand for, and placement of, electric charging stations. (multiple choice)

True  
 False

	Responses (percent) (count)	
True	100%	41
False	0%	0
<b>Totals</b>	<b>100%</b>	<b>41</b>

24.) 17. The implementation of advanced technology and car sharing will have the following impact on the need for major capacity projects in the future: (multiple choice)

		Responses (percent) (count)	
Eliminate the need for new capacity projects	(other than those already planned)	12.77%	6
Will significantly reduce the need for capacity projects	(other than those already planned)	46.81%	22
Will have a minor influence on reducing the need for capacity projects	(other than those already planned)	21.28%	10
Will not reduce the need for capacity projects	(other than those already planned)	19.15%	9
<b>Totals</b>		<b>100%</b>	<b>47</b>

25.) 18. The following corridors in the R2CTPO planning area currently have coordinated traffic signals: (multiple choice)

		Responses (percent) (count)	
SR 40 –	Granada Boulevard	4.26%	2
US 92 –	International Speedway Boulevard	61.70%	29
SR 421 –	Dunlawton Avenue	17.02%	8
US-1 –	Ridgewood Avenue	4.26%	2
US 17/92 –	Woodland Boulevard	12.77%	6
<b>Totals</b>		<b>100%</b>	<b>47</b>

26.) 19. A comprehensive plan is needed to implement advanced technologies that will provide the best benefit to this area: (multiple choice)

		Responses (percent) (count)	
True		97.87%	46
False		2.13%	1
<b>Totals</b>		<b>100%</b>	<b>47</b>

27.) A. Please rate the following statement using a 1 to 5 scale: The agenda was useful. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

		Responses (percent) (count)	
Totally Disagree		6.67%	3
Somewhat Disagree		0%	0
Neutral		6.67%	3
Somewhat Agree		13.33%	6
Totally Agree		73.33%	33
<b>Totals</b>		<b>100%</b>	<b>45</b>

28.) B. Please rate the following statement using a 1 to 5 scale: The information presented was useful. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	0%	0
Somewhat Disagree	2.33%	1
Neutral	2.33%	1
Somewhat Agree	11.63%	5
Totally Agree	83.72%	36
<b>Totals</b>	<b>100%</b>	<b>43</b>

29.) C. Please rate the following statement using a 1 to 5 scale: The objectives for the retreat were stated at the outset. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	2.27%	1
Somewhat Disagree	0%	0
Neutral	18.18%	8
Somewhat Agree	18.18%	8
Totally Agree	61.36%	27
<b>Totals</b>	<b>100%</b>	<b>44</b>

30.) D. Please rate the following statement using a 1 to 5 scale: Overall, the objectives of the retreat were achieved. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	0%	0
Somewhat Disagree	2.27%	1
Neutral	2.27%	1
Somewhat Agree	27.27%	12
Totally Agree	68.18%	30
<b>Totals</b>	<b>100%</b>	<b>44</b>

31.) E. Please rate the following statement using a 1 to 5 scale: The speakers recognized and engaged the participants. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	0%	0
Somewhat Disagree	2.38%	1
Neutral	2.38%	1
Somewhat Agree	14.29%	6
Totally Agree	80.95%	34
<b>Totals</b>	<b>100%</b>	<b>42</b>

32.) F. Please rate the following statement using a 1 to 5 scale: The TPO staff helped me feel welcome. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	0%	0
Somewhat Disagree	2.56%	1
Neutral	0%	0
Somewhat Agree	0%	0
Totally Agree	97.44%	38
<b>Totals</b>	<b>100%</b>	<b>39</b>

33.) G. Please rate the following statement using a 1 to 5 scale: The meeting time was the right length. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	0%	0
Somewhat Disagree	2.27%	1
Neutral	6.82%	3
Somewhat Agree	13.64%	6
Totally Agree	77.27%	34
<b>Totals</b>	<b>100%</b>	<b>44</b>

34.) H. Please rate the following statement using a 1 to 5 scale: Overall, I am very satisfied with the retreat. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	0%	0
Somewhat Disagree	0%	0
Neutral	6.98%	3
Somewhat Agree	11.63%	5
Totally Agree	81.40%	35
<b>Totals</b>	<b>100%</b>	<b>43</b>

35.) I. Please rate the following statement using a 1 to 5 scale: I know much more about transportation technology from attending the retreat. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

	Responses	
	(percent)	(count)
Totally Disagree	2.27%	1
Somewhat Disagree	2.27%	1
Neutral	6.82%	3
Somewhat Agree	20.45%	9
Totally Agree	68.18%	30
<b>Totals</b>	<b>100%</b>	<b>44</b>

36.) J. Please rate the following statement using a 1 to 5 scale: I know what the next steps following this meeting will be. 1 – Totally Disagree to 5 – Totally Agree (multiple choice)

Totally Disagree  
 Somewhat Disagree  
 Neutral  
 Somewhat Agree  
 Totally Agree

	Responses	
	(percent)	(count)
Totally Disagree	2.27%	1
Somewhat Disagree	2.27%	1
Neutral	9.09%	4
Somewhat Agree	45.45%	20
Totally Agree	40.91%	18
<b>Totals</b>	<b>100%</b>	<b>44</b>