GEORGIA DOT RESEARCH PROJECT 17-26

FINAL REPORT

PUBLIC INVOLVEMENT/EDUCATION ON ALTERNATIVE INTERSECTION/INTERCHANGE DESIGNS

OFFICE OF PERFORMANCE-BASED MANAGEMENT AND RESEARCH

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1. Report No. FHWA-GA-20-1726	2. Government Accession No. N/A	3. Recipient's Catalog No. N/A
4. Title and Subtitle Public Involvement/Education on Alternative Intersection/Interchange Designs		**5. Report Date** September 2020 **6. Performing Organization Code** N/A
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12. Sponsoring Agency Name and Address Georgia Department of Transportation Office of Performance-based Management and Research 600 West Peachtree St. NW Atlanta, GA 30308		**13. Type of Report and Period Covered** Final Report (March 2018 – September 2020) **14. Sponsoring Agency Code** N/A
15. Supplementary Notes Prepared in cooperation with the U.S. Department of Transportation, Federal Highway Administration.		

16. Abstract

Given the recent introduction of many innovative designs, still relatively limited material exists that explains the concepts, tradeoffs, and benefits underlying such innovative intersection designs in a form accessible to the general public. This project was designed to both test the effectiveness of existing GDOT public information materials and to develop a library of additional presentation materials to support and supplement these existing communications materials. In particular, these additional materials were designed to provide the public with simplified explanatory materials to supplement more project-specific materials for use at public information open houses (PIOHs) for projects in which these innovative intersections/interchanges are being considered and/or recommended. In consultation with GDOT, the intersection types selected to develop materials for were: roundabouts; roundabout interchanges; reduced conflict U-turn (RCUT) intersections; median U-turn (MUT) intersections; displaced left-turn/continuous-flow (DLT/CFI) intersections; continuous green-T (Florida-T or "seagull") intersections, and quadrant intersections.To judge the effectiveness of the materials for their intended purpose, the project team undertook a series of evaluations regarding both the effectiveness of applicable presentation materials and particular aspects of the PIOH process at nine public meetings between July 2018 and January 2020. The results of these evaluations confirmed that participants in the meetings preferred the updated materials to those used earlier.

17. Keywords	18. Distribution Statement		
Intersections; Roundabouts; PIOH; Education	No Restriction		
19. Security Classification (of this report) Unclassified	**20. Security Classification (of this page)** Unclassified	**21. No. of Pages** 51	**22. Price** Free

GDOT Research Project No. 17-26

Final Report

PUBLIC INVOLVEMENT/EDUCATION ON ALTERNATIVE INTERSECTION/INTERCHANGE DESIGNS

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September 2020

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EXECUTIVE SUMMARY

Innovative intersections have, in many cases, been shown to increase safety and system capacity, while also decreasing left-turn conflicts, delays, cost, and construction times. However, effectively communicating these benefits to the public is frequently a concern and a challenge. Since these innovative intersections and interchanges often represent a departure from what might be considered “normal” roads, many drivers have the perception that these intersections are unsafe, are confused by them, or may have difficulty navigating them without additional support. Likewise, many specific user groups (e.g., trucking companies or local business owners) may be concerned about how these innovative intersections will impact their operations. Thus, providing the public with effective education is important to both familiarize drivers with why these innovative strategies are being proposed in particular circumstances and give them an understanding of how they, as drivers, can successfully navigate these intersections or interchanges. In the absence of this knowledge, the public can find it difficult to provide the type of informed feedback necessary for a state Department of Transportation (DOT) to deliver an effective transportation system that meets community needs.

Given the recent introduction of many innovative designs, still relatively limited material exists that explains the concepts, tradeoffs, and benefits underlying these innovative intersection designs in a form accessible to the general public. This project was designed to both test the effectiveness of existing Georgia Department of Transportation (GDOT) public information materials and to develop a library of additional presentation materials to support and supplement those existing communications materials. In particular, these

additional materials were designed to provide the public with simplified explanatory materials to supplement more project-specific materials for use at public information open houses (PIOHs) for projects in which these innovative intersections/interchanges are being considered and/or recommended.

In consultation with GDOT, the research team selected the following intersection types to develop materials for:

- Roundabouts.
- Roundabout interchanges.
- Reduced conflict U-turn (RCUT).
- Median U-turn (MUT).
- Displaced left-turn/continuous-flow (DLT/CFI).
- Continuous green-T (Florida-T).
- Quadrant intersections.

A consistent set of materials was developed for each of the intersection types, including:

- A large (36″ × 48″) poster illustrating important facts about the particular innovative intersection. This format would be compatible with mounting on a standard easel and could be used either as a passive display or in conjunction with a local docent.
- A standard 8.5″ × 11″ trifold brochure.

- A single-sided 8.5″ × 11″ flyer that would contain much of the same information as the trifold brochure but could more easily be included in handouts or documents.
- A basic VISSIM™ simulation of the intersection operating at moderate traffic.
- A video derived from the simulation showing the perspective from each approach and the "driver's eye" perspective showing how to navigate through the intersection.

Over the course of the project, these materials underwent many changes based on both direct comments by subject matter and communications experts and through more formal testing.

To judge the effectiveness of the materials for their intended purpose, the project team undertook a series of evaluations regarding both the effectiveness of applicable presentation materials and particular aspects of the PIOH process at nine public meetings between July 2018 and January 2020. The results of these evaluations confirmed that participants in the meetings preferred the updated materials to those used earlier.

CHAPTER 1. INTRODUCTION

INNOVATIVE INTERSECTIONS

The Georgia Department of Transportation (GDOT) is actively pursuing the use of a variety of alternative intersection designs as a means of improving both the safety and operations of the state highway network. In many cases, application of these "innovative" or "alternative" intersection designs can reduce the number of potential vehicle conflicts, especially left-turn conflicts, and can have a favorable impact on systems delays, costs, and construction times. These designs can, thus, often increase both the capacity and safety of the system for both vehicular and nonvehicular traffic. Perhaps the most familiar of these innovative intersection designs is the roundabout (figure 1). Originally developed in the United Kingdom during the 1960s, the design initially became popular in Europe where there are now more than 100,000 such intersections deployed. The roundabout design has a number of operational and safety benefits relative to conventional stop-controlled intersections. For example, the splitter islands that are present on each approach have the effect of slowing vehicle speeds as they traverse the intersection, thereby both reducing the probability of a crash (by allowing more reaction time for drivers) and reducing its potential severity (by reducing the energy of the collision). Likewise, the geometry of the intersection typically makes the collisions that do occur less severe by decreasing the fraction of dangerous head-on or angle-type collisions. This type of intersection design began to become more common in the United States during the early 2000s and, at present, most Georgia drivers have intersections of this type in the course of their normal driving.

Figure 1. Photo. Roundabout in Roswell, Georgia. (roswellgov.com)

While roundabouts are the most common type of innovative intersection design, there are a wide variety of other types. Like the roundabout, most of these intersection or interchange designs seek to reduce the number of potential conflict points, especially within the intersection itself, by either: (1) *changing the geometry of the lanes*, e.g., the diverging diamond interchange (DDI) crosses all lanes over to the "other side" of the road to facilitate movements where left turns are common, or (2) *changing the location where certain turning movements occur*, e.g., the displaced-left-turn (DLT) intersection moves some, or all, of the left-turning movements away from the intersection itself. Some designs, like the roundabout, also seek to limit vehicle speeds by geometric means.

A number of studies have been conducted to demonstrate the safety impacts and operational efficiencies of these innovative intersections. For example, converting a conventional four-way intersection to a roundabout reduces total crashes by 35 percent, on average. Typical reductions in the rate of injury and fatal crashes are even higher at 76 percent and 90 percent, respectively (Rodegerdts et al. 2007, Rodegerdts et al. 2010,

Persaud et al. 2000). Persaud et al. (2000) (see table 1) demonstrated the safety impacts resulting from converting traditional intersections to roundabouts.

Table 1. Reduction in crashes for roundabout conversions for various conditions. (Persaud et al. 2000)

Intersection Conditions	Reduction in Crashes	
	All (%)	Injury (%)
Single-lane, Urban, Stop-controlled	61	77
Single-lane, Rural, Stop-controlled	58	82
Multilane, Urban, Stop-controlled	15	N/A
Urban, Signalized	32	68

A similar study by Rodegerdts et al. (2007) found comparable results (see table 2).

Table 2. Estimated crash reduction impacts from roundabout conversions. (Rodegerdts et al. 2007)

Intersection Conditions	Estimated Reduction in Crashes	
	All (%)	Injury (%)
Signalized	47.8	77.7
All-way stop	Effects insignificant	Effects insignificant
Two-way stop	44.2	81.8

The displaced left-turn intersection, also known as a continuous-flow intersection (CFI), reduces intersection delay by 30–40 percent for a partial DLT (some left turns displaced) and 50–80 percent for a full DLT (all left turns displaced) (FHWA Techbrief 2009). The median U-turn design (also known as a J-turn or "Michigan left" design, which replaces left turns with a downstream U-turn and a subsequent right turn) results in a 34.8 percent reduction in crash frequency for all crashes and a 53.7 percent reduction in crash

frequency for all injury and fatal crashes (Edara, Sun, and Breslow 2014). A Federal Highway Administration (FHWA) study on reduced-conflict (also known as restricted-crossing) U-turn intersections (RCUT, see figure 2), in which through and left-turn movements out of a side street are displaced downstream along the main road, showed a 28–44 percent reduction in average number of crashes per year (Inman and Haas 2012).

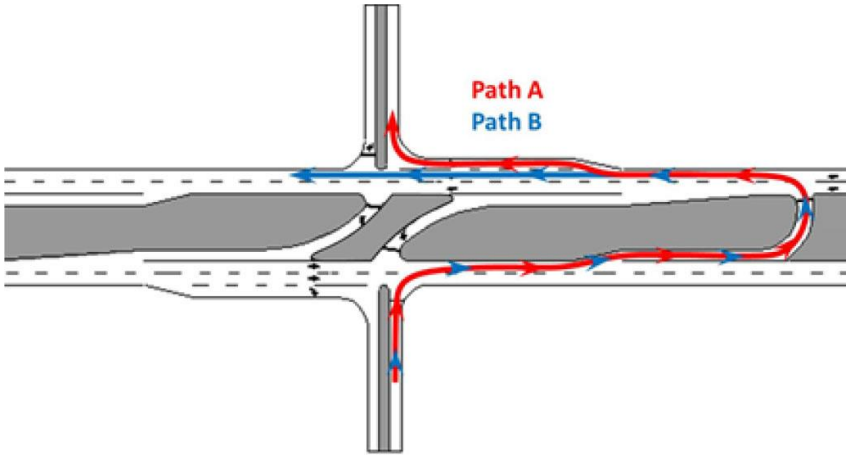

Figure 2. Design. Reduced-conflict U-turn intersection showing through and left-turn movements. (GDOT)

PUBLIC PERCEPTIONS OF INNOVATIVE INTERSECTIONS

While GDOT recognizes the operational and safety benefits of innovative intersections, educating the public as to these benefits has proven challenging. Since Congress passed the National Environmental Policy Act (NEPA) in late 1969, federal agencies and state departments of transportation, including GDOT, have been required to study the environmental impacts of "major actions" that they undertake and to seek public involvement in the decision-making process, including analysis of alternatives. This participation can be problematic in the case of innovative intersections, where despite their numerous advantages, these innovative intersection designs are not always widely

embraced by the public. For example, a study on the public acceptance of roundabouts showed that about 30 percent of residents strongly supported roundabouts, while about 30 percent strongly opposed them (Savolainen, Kawa, and Gates 2012). Previous research has also shown that people who had more experience with roundabouts were, in general, more supportive of roundabouts than those with less experience (Pochowski and Myers 2010; Retting et al. 2002; Retting et al. 2007; Savolainen, Kawa, and Gates 2012). This is not surprising since often the public perception of the functionality and safety of alternative intersection design is at odds with their actual documented performance.

The Georgia Department of Transportation has a long-standing commitment to building a safe and effective transportation system. Innovative intersections have, in many cases, been shown to increase safety and system capacity, while also decreasing left-turn conflicts, delays, cost, and construction times. However, these innovative intersections and interchanges represent a departure from what many drivers consider to be "normal" roads. Many citizens may have the perception that these intersections are unsafe, or they may be confused by them and may have difficulty navigating them without additional support (Savolainen, Kawa, and Gates 2012; Edara, Sun and Breslow 2014). Likewise, many specific user groups (e.g., trucking companies or local business owners) may be concerned about how innovative intersections will impact their operations. It is, therefore, important to provide the public with effective education to both familiarize them with why these innovative strategies are being proposed in particular circumstances and with an understanding of how they, as drivers, can successfully navigate these intersections or interchanges. In the absence of this knowledge, the public can have difficulty providing

the type of informed feedback that aids GDOT in delivering an effective transportation system that meets community needs.

Despite the numerous operational and safety benefits of these intersections, effectively communicating these benefits to the public is frequently a concern and a challenge. GDOT has a well-established set of procedures and protocols (GDOT 2012, GDOT 2016) designed to produce an open and effective public involvement process under NEPA. When GDOT project teams hold public meetings, the GDOT Communications Office team provides support to help the public understand the project, to ameliorate their concerns, and to dispel myths about safety and operations. However, even with these efforts, public opposition to adoption of innovative intersection design can be a challenge and GDOT has a strong interest in ensuring that its educational materials are as effective as possible.

PROJECT OBJECTIVES

Given the recent introduction of many innovative designs, relatively limited material exists that explains the concepts, tradeoffs, and benefits underlying these innovative intersection designs in a form accessible to the general public. This project was designed to both test the effectiveness of existing GDOT public information materials and to develop a library of additional presentation materials to support and supplement those in existence. In particular, these additional materials were designed to provide the public with simplified explanatory materials to supplement more project-specific materials for

use at public information open houses (PIOHs) for projects in which these innovative intersections/interchanges are being considered and/or recommended.

Specifically, this research project aimed to:

1. In coordination with GDOT staff, develop a library of visual aids, informational fact sheets, and educational modules for use at public meetings to educate the public on innovative intersections and increase acceptance and comfort with these intersections.
2. Evaluate these educational materials for effectiveness.

In the following sections we describe the process used for development and testing of these materials and the evaluation of how these and existing materials, processes, and procedures were used in the context of GDOT PIOHs for projects that contain innovative intersections.

CHAPTER 2. PROJECT SYNOPSIS

By its nature, this project required close coordination between the Georgia Tech team and GDOT personnel. An initial project "kickoff" meeting was held on May 8, 2018, at the GDOT Traffic Management Center (TMC) between the research team and representatives from the GDOT offices of Traffic Operations (Christina Barry); Communications (Liz Rothman, Katina Lear) and Performance-Based Management and Research (David Jared, Binh Bui). At this meeting, it was decided that the joint GDOT/Georgia Tech project team would meet on an approximately monthly basis, at least initially, to maintain the close coordination required for this project.

At the first regular monthly project meeting (June 8, 2018), the Georgia Tech team presented the results of a survey of currently available presentation materials from GDOT, as well as those identified to be available from FHWA and other state DOTs. The GDOT team presented a list of additional GDOT personnel who should be included in project communications and be given access to project-related materials. They also presented their recommendations as to the types of materials that would be most useful (i.e., posters, tri-fold brochures, single-page fliers, and VISSIM™ simulation videos), as well as a final list of the types of intersections/interchanges to be included in the project (i.e., roundabouts/roundabout interchanges; reduced conflict U-turn; median U-turn; continuous-flow/displaced left-turn; continuous green-T; and quadrant intersections). At this meeting, it was decided that, before developing any new materials for the project, the Georgia Tech team would attend a GDOT PIOH that included a proposed innovative

intersection to identify any limitations of current materials or procedures that could be aided by new materials.

The Georgia Tech team conducted this "pilot" evaluation on July 12, 2018, and reported the results to GDOT during the next regular project meeting on August 9, 2018, as well as provided draft presentation materials (i.e., tri-fold brochures, posters) for review by the GDOT team. Based on comments received from GDOT both during this meeting and in subsequent communications, these draft materials were modified and were tested to a broader GDOT audience during the annual Georgia Transportation Institute (GTI) research exposition held at GDOT headquarters on September 6, 2018.

During Fall 2018, the Georgia Tech team developed a full set of first-generation (Gen-1) presentation materials (i.e., each type of material for each type of intersection), and presented draft versions of particular materials at regular project meetings (October 12, 2018, and November 30, 2018) for GDOT comments. Based on these comments, the Gen-1 materials were made available to the expanded GDOT distribution list in December 2018 for final comments. All of the primary GDOT offices (i.e., Offices of Traffic Operations, Communications, and Research) had provided comments by mid-January 2019 and the amended versions were approved for testing at the regular project meeting on January 23, 2019.

These Gen-1 presentation materials were evaluated at three PIOH meetings between late January and early March 2019, and the results of these evaluations were presented at the regular project meeting on March 27, 2019, along with recommendations on needed-improvements. Prior to this meeting, the GDOT Office of Communications had also been

working with the project team to improve procedures and information factsheets based on earlier evaluations of materials. Both these new GDOT and "Gen-2" project materials were available by early May 2019. The Georgia Tech team conducted a comparison of the Gen-1 and Gen-2 materials during a PIOH in late May 2019 (May 23).

GDOT conducted a "pilot" of its improved PIOH procedures and materials on June 18, 2019 near Ringgold, Georgia. The research team conducted a series of interviews at this meeting to both evaluate the Gen-2 materials and the new procedures. These results were presented to the project team during the regular project meeting on July 2, 2019.

Two additional evaluations of the Gen-2 materials were conducted during July and August 2019. A selection of these materials was provided to other GDOT employees during the annual Georgia Transportation Institute Research Exposition at GDOT headquarters in September 2019, although no formal interviews were conducted.

Throughout the project, evaluation of materials had been hampered by the relatively small number of PIOHs that incorporated innovative intersections. Additionally, the PIOHs that were available were overwhelmingly based on roundabouts. In fact, roundabouts were incorporated into every PIOH evaluated, with only one project including another type of innovative intersection (i.e., RCUT). During the September 2019 project meeting, it was decided to extend the period for which evaluations would be conducted in anticipation that additional types of intersections were to be included in upcoming PIOHs. In January 2020, such an opportunity arose when a PIOH incorporating a DLT/CFI was held in Peachtree City, Georgia. This PIOH allowed the Georgia Tech team to evaluate these additional materials. Unfortunately, that proved to

be the only additional opportunity available as the subsequent COVID-19 pandemic led to the cancellation of virtually all in-person PIOH meetings in Georgia. A more detailed description of each of the project elements is provided in the following chapter.

CHAPTER 3. PROJECT TASKS

LITERATURE REVIEW

Benefits of Innovative Intersections

A brief literature review was conducted to document the benefits of these innovative intersections, as well as to identify common reasons for support of, and opposition to, these types of intersection designs, and how these intersections relate to and differ from each other. In addition to the literature review, the research team conducted a survey of state DOT websites to identify the current best practices used by DOTs throughout the country, specifically investigating the materials used at public meetings.

Despite substantial literature on the subject, the research team decided to limit benefit claims in the public information materials to a single source across all types of innovative intersections/interchanges. For this purpose, FHWA guidance based on Hughes et al. (2010), as updated on the FHWA Alternative Intersection Safety website (FHWA 2020), was used for all safety benefit claims.

Literature Review on Public Involvement

The body of literature on public acceptance of innovative or alternative intersections is not as robust as that describing the operational or safety benefits. Nevertheless, there are a range of studies that have considered this process (see for example: Retting et al. 2002; Retting et al. 2007; Pochowski and Myers 2010; Savolainen, Kawa, and Gates 2012; Edara, Sun, and Breslow 2014). Most of these studies conclude that a significant fraction

of the public (e.g., Savolainen, Kawa, and Gates estimate ~30 percent) perceive these innovative intersections to be unsafe, difficult to navigate, and more likely to result in congestion than their conventional counterparts despite significant evidence to the contrary. Similarly, many bus and truck drivers believe that their vehicles will have difficulty traversing these intersections despite special provisions to accommodate these movements. Based on these observations, it appears unlikely that static presentation materials (e.g., brochures or posters) alone would fully convince these drivers as to navigability; thus, some dynamic simulation (e.g., video of a similar design, VISSIM™ microsimulation, or a scale model) will need to be incorporated into these PIOHs. For this reason, the project incorporates into the project deliverables the development of a sample VISSIM™ simulation and a derived video for each intersection type.

Interviews with GDOT and Contractor Staff

A key component of this task was also to gather information about existing efforts at GDOT to educate and inform the public on innovative intersections. The goal for this step was to understand previous successes and existing resources, as well as to avoid duplicating efforts. In order to guide development of materials to best meet the needs, the research team interviewed members of GDOT environmental and communications staff, as well as support contractors (i.e., Atkins Global), to become familiar with current GDOT strategies, methods, and policies used at PIOH meetings and other events to educate the public about innovative intersections and to learn about challenges that have been faced in conducting public outreach in general, and for innovative intersections in particular. Throughout this and subsequent tasks, the research team coordinated with the

GDOT Traffic Operations and Communications personnel to ensure that this project was complementary to existing efforts.

Consistent with these earlier studies of public involvement, it became apparent from these interviews that, although there were often project-specific issues, a substantial number of attendees remained concerned regarding the safety, navigability, and impact on congestion of these innovative intersections—despite exposure to written materials. In addition, these staff indicated that, as expected, the incorporation of high-quality videos based on VISSIM™ simulations produced by the Visual Engineering Resource Group (VERG) from the GDOT Office of Design Policy and Support into the PIOH process had proven to be a significant help in the public education process.

Review of Materials from Other State DOTs

To establish the current state of the practice with regard to public information materials, a web-based search for materials applicable to each of the innovative intersections of interest was conducted to identify potential sources of information that could be used as a starting point for Georgia-specific materials. Material of interest included brochures, flyers, as well as videos and other presentation materials. Upon completion of the survey, there were 10 sources, not including GDOT itself, selected for further evaluation:

- FHWA.
- Florida DOT.
- Indiana DOT.
- Michigan DOT.

- Minnesota DOT.
- North Carolina DOT.
- Texas DOT.
- Utah DOT.
- Virginia DOT.
- Washington DOT.

Materials for each of the intersection types that were available from each source were evaluated for their suitability for use as a general style for the design of public information material and were evaluated in terms of the need for changes necessary to produce a version specific to the Georgia DOT. Table 3 provides the assessment scale used for this evaluation.

Table 3. Starting material assessment scale.

Rating	Description
1	Minor changes only/quality review
2	Needs editing to GDOT standards
3	Information exists, needs assembly
4	Some information exists, more needed
5	Create all original material

Based on these assessments, the research team selected a starting point for the development of project-related public information materials. The highest rated source material for each type of intersection is shown in table 4.

Table 4. Best available starting materials.

Intersection Type	Assessment Rating	Primary Source
Reduced-conflict U-turn	2/3	FHWA
Median U-turn	2/3	MnDOT
Roundabout	1	FHWA/MnDOT
Roundabout interchange	5	N/A
Continuous Green-T	2	VDOT
Diverging diamond	1	GDOT
Quadrant	3	NCDOT
Displaced left-turn/CFI	4	VDOT

This assessment was used as the starting point for development of printed materials for the public information materials produced in subsequent tasks.

EVALUATION OF EXISTING PRACTICES

Observation of Existing PIOH Procedures for Innovative Intersections (Pilot Study)

To establish a baseline from which to evaluate any future changes, the Georgia Tech team observed a PIOH meeting hosted by GDOT and evaluated both the public information materials present and the overall process.

This pilot study was conducted at the PIOH for GDOT project PI-0013379, a major widening and realignment project on State Route (SR) 36 in Butts County, Georgia. The primary purpose of the project was to relieve congestion in downtown Jackson, Georgia, by allowing trucks and other traffic to bypass the downtown area. The proposed route traveled through a largely residential area with a school, two churches, a library, and a recreational area, as well as a number of homes and small businesses that would be

affected by the project. In addition, the project involved a number of stream crossings with complex drainage requirements and potential impacts on adjacent wetlands. The project also included two proposed roundabouts, one with four legs and another with five legs. The meeting was held in the early evening at the Butts County Administration Building in Jackson, Georgia, on July 12, 2018, and had well over 100 members of the public present.

The layout of the meeting was in accordance with standard GDOT procedures (GDOT 2012, 2016). There was a check-in table for members of the press and elected officials and an additional voluntary signup sheet for members of the public should they wish to receive any follow-on materials from GDOT. Adjacent to the check-in table, GDOT had provided a project overview letter signed by the GDOT commissioner with a comment sheet attached, as well as several supplementary brochures. The latter included an overview of the NEPA Title VI public information process (both English and Spanish versions), as well as a roundabout brochure (both English and Spanish versions) and a brochure describing the right-of-way acquisition process (English only). One or more of these brochures were collected by approximately two-thirds of the participants.

After passing the check-in desk, the participants moved along a glass-lined corridor in which there were some general welcome posters and a large-format (approximately 3′ × 6′) project layout board supported by two easels (see figure 3). The layout board itself included a project layout, including edge-of-pavement and right-of-way limits, and was superimposed on a satellite image of the area. Typical cross sections for the mainline

and both roundabouts were shown as inlays on the satellite image. Further down the hall, two additional copies of the layout were also provided.

Figure 3. Photo. Project layout board at PIOH in Jackson, Georgia.

In addition, there was a projector and screen showing a continuous loop of a “fly though” VISSIM™ simulation of the project (see figure 4) and a table with writing materials and comment cards, two collection boxes for these comments, and a poster describing the online submission process as well as a mailing address for comments. A court reporter assigned to take any oral comments was available in an adjacent room (see figure 5).

Figure 4. Photo. Projected project VISSIM™ model at Jackson, Georgia, PIOH meeting.

Figure 5. Photo. Court reporter at Jackson, Georgia, PIOH meeting.

In each of the areas, there were GDOT and/or contractor personnel available to assist the participants or to answer any questions. From the beginning of the meeting, it was obvious that the proposed project was contentious. While opponents clearly outnumbered

supporters, there were a number of people expressing support for the project. Some of these discussions between these two groups were rather "heated." Most of those opposed to the project were not primarily concerned with the inclusion of the roundabouts but rather with potential impacts of traffic on the neighborhoods, especially the safety aspects of having more large trucks in the area. Other participants were also concerned about right-of-way impacts on their homes, historical structures, a library, a church, etc.

A number of participants, however, did express the previously discussed concerns regarding safety, navigability, and/or the congestion impacts of these innovative intersection designs. Although a limited series of pilot interviews were conducted by Georgia Tech personnel, these were kept to a minimum in order to spend as much time as possible observing the process. A steady flow of participants continued to arrive throughout the scheduled meeting times, and several participants continued talking to GDOT personnel well after the official end to the meeting.

Observations from the Meeting Process

The Georgia Tech team analyzed their collective observations from the pilot PIOH study in Jackson, Georgia, and presented their observations and recommendations to the project team during a project meeting on August 9, 2018. These observations can be summarized as follows:

- There was a significant GDOT presence at the meeting and more than enough people to handle questions from the public.

- There was reasonably good coordination among GDOT (and contractor) personnel.
- The comment process was handled smoothly and effectively.
- GDOT (and contractor) personnel were very personable and professional but were severely hampered by inadequate and/or obsolete presentation materials.
- These problems were overwhelmingly associated with the project-specific rather than the general presentation materials.
- These problems contributed to a negative overall impression of the GDOT public information process by many participants.
- Specifically, the plan view posters were *not of the proposed design.*
    - The plan views presented were actually from the *conceptual design submitted for peer review.*
    - Design changes that had been made to address potential concerns *were not included* in the presentation materials.
    - The actual final proposed design had been adjusted to avoid taking any full parcels and/or structures, but the printed materials showed *direct impacts on historical structures* that were not present in the actual design.
- Similarly, the VISSIM™ presentation illustrated the same *conceptual design* as the plan view posters and not the *final proposed design.*
    - As seen in figure 4, the front projected screen was nearly invisible in the brightly lit corridor.
    - The fly-through nature of the simulation did little to show skeptical individuals how to navigate the roundabouts.

- The presentation materials also demonstrated a number of pedagogical errors for dealing with the public. In particular:
    - As is common in engineering practice, the roundabout cross sections were exaggerated vertically by 10 times in order to show a distinct slope on the drawings. As a consequence, the diagrams showing trucks on the roundabout showed a noticeable “lean” that reinforced the idea that the roundabouts may be dangerous for a truck to traverse. In practice, the general public has little need for cross sections in order to understand the project.
    - As is common in engineering practice, the VISSIM simulations are run at a faster than real-time pace in order for engineers and planners to rapidly see the results of traffic. In the case of the Jackson PIOH, the simulation was sped up ~6x actual speed and, thus, trucks and other vehicles appear to be moving through the neighborhood at a high speed. This impression is not favorable to individuals worried about the safety impacts of the proposed project.
    - By showing right-of-way limits rather than project limits, the presentation materials created the impression that the project would have a much greater impact on properties than was actually proposed.

As a consequence of these observations, it was determined that the project team would continue to discuss best practices for conducting PIOH meetings involving innovative intersections, as well as producing additional general presentation materials.

DEVELOPMENT OF PRINTED MATERIAL

As described earlier, at the first regular monthly project meeting (June 8, 2018), the Georgia Tech team presented the results of an evaluation of available presentation materials from GDOT, FHWA, and other state DOTs that could be used as a starting point for development of Georgia-specific materials on innovative intersections that could be used in public meetings and for general educational purposes (including potential application to "virtual" PIOHs (Center for Accelerating Innovation 2020). Based on these results, it was decided that the project would develop a consistent set of printed material across all types of innovative intersections. These materials would include:

- A large (36″ × 48″) poster illustrating important facts about the particular innovative intersection. This format would be compatible with mounting on a standard easel and could be used either as a passive display or in conjunction with a local docent.
- A standard 8.5″ × 11″ trifold brochure similar to materials already distributed by GDOT at roundabout meetings.
- A single-sided 8.5″ × 11″ flyer that would contain much of the same information as the trifold brochure but could more easily be included in handouts or documents.

Each of these materials would be prepared in two slightly different versions. The first would aim to describe the operation and benefits of the intersection as simply as possible, largely avoiding quantitative statements, in an effort to be accessible to the broadest

range of the public. The second would be a more quantitative/technical version of the material to be aimed at decision makers and/or members of the public wanting more specific information. For example, the simple version might say, “This type of intersection is much safer than using stop signs,” while the latter might say, “This design reduces crashes by 43 percent compared to a stop-controlled intersection.”

These materials were developed for each of the innovative intersection types selected in consultation with GDOT. These intersection types were:

- Roundabouts.
- Roundabout interchanges.
- Reduced conflict U-turn.
- Median U-turn.
- Displaced left-turn/continuous-flow.
- Continuous green-T.
- Quadrant intersections.

Over the course of the project, these materials underwent many changes based on both direct comments by subject matter and communications experts and more formal testing. However, the development of these materials followed four distinct phases.

Draft Printed Materials

Several different “concept” materials were developed in Summer 2018 and were presented to the project team at the August meeting (August 9, 2018). Based on

comments from this meeting, additional materials were developed and presented to additional GDOT staff at the GTI Research Expo held at GDOT headquarters on September 6, 2018. Results from this testing indicated that too much text was being included in the brochures, and the materials were extensively revised throughout Fall 2018.

Revised versions of particular materials were presented at regular project meetings (October 12, 2018, and November 30, 2018) for additional comments by the project team. Based on these comments, the draft Gen-1 materials were made available to the expanded GDOT distribution list in December 2018 for final comments. All of the primary GDOT offices (i.e., Offices of Traffic Operations, Communications, and Research) had provided comments by mid-January 2019 and the amended versions were approved for testing at the regular project meeting on January 23, 2019.

Gen-1 Printed Materials

These Gen-1 presentation materials were evaluated at three PIOH meetings between late January and early March 2019, and the results of these evaluations were presented at the regular project meeting on March 27, 2019, along with recommendations on needed improvements. A description of this evaluation process is provided later in this report. The principal results of these evaluations were: (1) a need to simplify the graphics on the brochures to remove unnecessary details; (2) a need to be more careful in the use of "jargon" (e.g., "splitter islands") in describing intersections, and (3) larger type sizes for improved readability. Based on these results, the Gen-1 materials were modified to produce a second-generation "Gen-2" product. During this period, the GDOT Office of

Communications had also been working with the project team to improve procedures and information factsheets based on earlier evaluations of materials.

Gen-2 Printed Materials

Both these new GDOT and Gen-2 project materials were available by early May 2019, and the Georgia Tech team conducted simultaneous tests of both the Gen-1 and Gen-2 materials during a PIOH in late May 2019 (May 23). For its part, GDOT conducted a "pilot" of its improved PIOH procedures and materials on June 18, 2019, near Ringgold, Georgia. The research team conducted a series of interviews at this meeting to both evaluate the Gen-2 materials and the new procedures. These results were presented to the project team during the regular project meeting on July 2, 2019. Two additional evaluations of the Gen-2 materials were conducted during July and August 2019. A selection of these materials was provided to other GDOT employees during the annual GTI Research Exposition at GDOT headquarters in September 2019, although no formal interviews were conducted.

Final Printed Materials

The evaluations of the Gen-2 materials (for roundabouts) versus the revised GDOT roundabout factsheet resulted in no significant public preference for either materials (i.e., most individuals did not express a preference for one vs. the other, and for those that did, roughly equal numbers preferred each one) although those two were preferred over both the original GDOT brochure and the Gen-1 materials. Based on these results, relatively few, mostly editorial, changes were made to the Gen-2 materials before submitting the

materials to GDOT for final approval. As discussed previously, the research team did conduct one additional evaluation of these draft final materials for a displaced left-turn (DLT/CFI) intersection in Peachtree City, Georgia, in January 2020 with 17 of 20 interviews indicating approval of the materials. These final materials have been stored in the electronic project archive for this project. Interested parties should contact the Alternative Intersections Supervisor of the GDOT Office of Traffic Operations for access to the materials. An example trifold (technical) brochure is shown in figure 6.

To deliver a transportation system focused on innovation, safety, sustainability and mobility

~ GDOT Mission Statement

Georgia Department of Transportation

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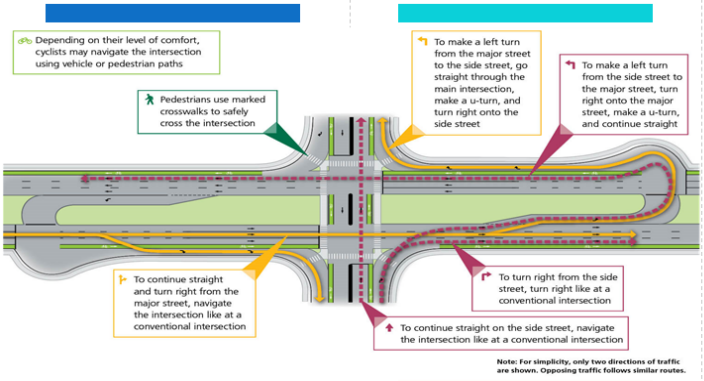
Median U-Turn Intersection



What is a Median U-Turn Intersection?

A Median U-Turn (MUT), also known as a Michigan Left-Turn, is an intersection design where left-turn vehicles from one or both roads make u-turns at dedicated median openings to complete the desired movement. Intersections can be designed with median u-turns on one or both roads. Median u-turns can be designed as signalized, stop controlled, or yield controlled. The Median U-Turn allows for reduced signal phases at the intersections – in some cases by as much as half – resulting in significantly improved traffic efficiency.

MUTs can accommodate the needs of all roadway users, including bicyclists, pedestrians, transit, and commercial vehicles. Relocating the left turns reduces the number and complexity of conflicts between traffic, pedestrians, and bicyclists. Instead of being used for left turn lanes, the median can be designed as a pedestrian refuge area, allowing people to cross the intersection in two shorter stages. The reduced congestion associated with operational improvements can make bicycle facilities easier to install since additional lanes are not needed.

MUT Advantages

■ Improved safety: Reduces the number of points where vehicles cross paths and decreases the potential for right-angle crashes.

■ Increased efficiency: Eliminates left-turn movements from the main intersection allowing for fewer traffic signal phases, which reduces delay and increases capacity.

■ Shorter wait times: Fewer traffic signal phases means less time stopping at the main intersection.

■ Cost effective: An MUT can be more cost-effective than adding lanes to increase capacity.

Source

GDOT webpage, "Median U-Turn Intersections." Available at www.fhwa.dot.gov

Images provided by Virginia DOT (VDOT). www.vdot.gov

Figure 6. Images. Sample trifold brochure.

DEVELOPMENT OF SIMULATIONS AND SIMULATION VIDEOS

Based on the observed importance of dynamic visual feedback to aid the public in understanding the operation of innovative intersections, the project team developed a series of microsimulations of traffic approaching and moving through each of the innovative intersections considered in this study.

These microsimulations were created in VISSIM™ version 9 and represent moderate traffic to best illustrate the flow of traffic through each type of intersection. In contrast with the more detailed microsimulations produced by the GDOT VERG team for specific projects, these represent only generic roadways and, thus, are primarily useful for general education purposes without modification. However, for users with some knowledge of VISSIM™, the full microsimulation files have been placed in the project archives and can be modified as necessary to reflect more specific conditions.

For each simulation, one or more videos have been created and archived. These videos each show a "fly through" of the intersection, an elevated view from each approach, and a driver's eye view of traversing the intersection from each approach. Persons with an interest in using these simulations or videos should contact the Alternative Intersections Supervisor of the GDOT Office of Traffic Operations for access. Appendix A provides a list of additional, publicly available videos identified in the survey of existing materials.

EVALUATION OF PIOH MATERIALS AND PROCESSES

As discussed earlier, the research team undertook a series of evaluations regarding both the effectiveness of individual presentation materials and particular aspects of the PIOH process from July 2018 until January 2020. The meeting locations are illustrated in figure 7, and specific information as to the date and purpose of the meeting are given in table 5.

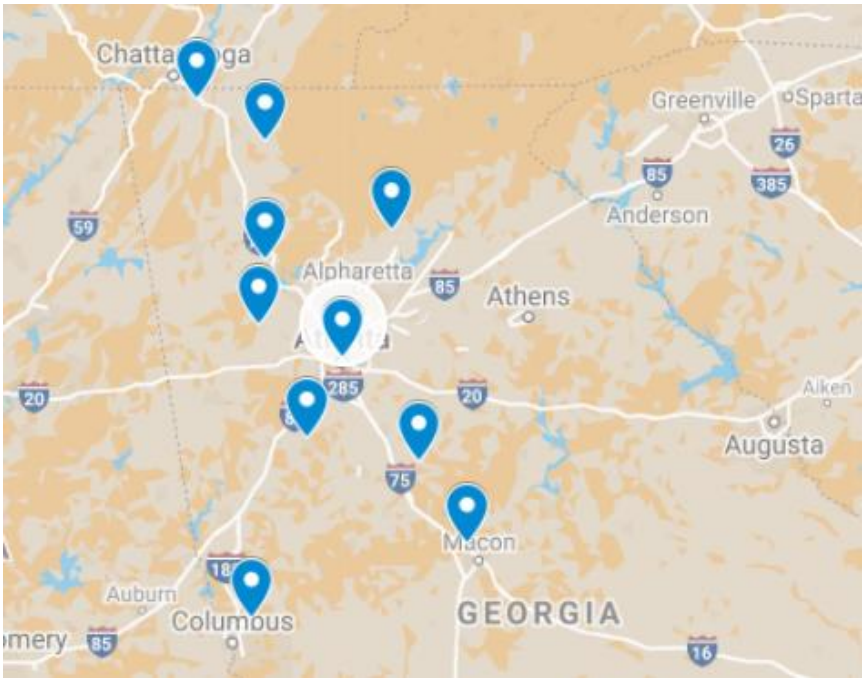


Figure 7. Map. PIOH meeting locations.
(The circled marker is GDOT headquarters.)
(Google Maps™)

Table 5. PIOH meetings used for evaluations.

GDOT Project #	Date	County	Project Type	Type of Intersection	Short Description	Meeting Location	Notes	Usable Records
PI-0013379	7/12/2018	Butts	Major Widening	Roundabout	SR 36 Connector	Butts Co. Admin Bldg., Jackson, GA	Pilot with GDOT Materials	21
GTI Expo	9/6/2018	Fulton	N/A	N/A	Interviews with GDOT staff at Annual GTI Expo	One Georgia Center, Atlanta, GA	Draft Gen-1 Materials	16
PI-0013700	1/23/2019	Paulding	Major Widening	Roundabout	SR 72 Widening	Watson Gov. Complex, Dallas, GA	Gen-1 Materials	11
PI-0013238	2/26/2019	Bartow	Corridor	RCUT, Roundabout	Rome–Cartersville Dev. Corridor	Faith United Methodist, Cartersville, GA	Gen-1 Materials	23
PI-0013682	3/12/2019	Dawson	Operational/Safety	Roundabout	Public Detour	Riverview Elem. School, Dawsonville, GA	Gen-1 Materials	7
PI-631550	5/21/2019	Murray	Operational/Safety	Roundabout	SR 225 @ SR 52 & CR 48 @ Spring Place	Spring Place Elem. School, Chatsworth, GA	Gen-1, Gen-2, Materials	11/18 gen-1/2
PI-0013590	6/18/2019	Catossa	Corridor	Roundabout	SR 146 from US 27 to CR 553	Colonade Civic Center, Ringgold, GA	New PIOH, Gen-2 Materials	22
PI-0006446	7/9/2019	Harris, Muscogee	Reconstruction/ Widening	Roundabout	SR 1 TIA Project	Pierce Chapel, Midland, GA	Gen-2 Materials	11
PI-0015686	8/27/2019	Bibb	Operational/Safety	Roundabout	SR 11/49 @ SR 247	GDOT, Riverside Dr., Macon, GA	Gen-2 Materials	7
PI-0013726	1/23/2020	Fayette	Operational/Safety	DLT/CFI	SR 54 @ SR 74	Peachtree City Library, Peachtree City, GA	Draft Final Materials	20

At each location, three different types of observations were conducted and recorded. The first were *direct observations*. These observations were used to determine the physical setting of the meeting; the approximate number, age, and gender ratios of the attendees; the size of queues near popular locations; etc. These direct observations were used to differentiate between the types of meeting environments. Some projects were relatively small and generated a mostly local audience while others (e.g., the Rome–Carterville development corridor) produced a very different environment. Unfortunately, the sample of available meetings (i.e., 9) was too small to draw any substantive conclusions as to the range of possible meeting environments.

The second type of observation was *environmental observations.* These observations were both *active* and *passive* in nature. The active observations were mainly direct interviews with GDOT or contractor personnel attending and/or working at the event. The main purpose of these interviews was to place the characteristics of this event into the broader range of experience of the people working the event. Was this meeting typical of your experience? More subdued than normal? More confrontational? Were the public participants similar to what you have seen before?

The passive observations were focused on the characteristics of the public attendees. What types of comments could be overheard? Did many of the participants appear frustrated? Did many individuals seem to be confused by events? Both the passive and active environmental observations were aimed at providing *context* to the third type of observation, the *participant interview*.

In this study, these participant interviews were the primary means by which particular materials could be compared with each other or the general level of satisfaction with a product or process could be determined.

A number of limitations existed in this study as to how these interviews could be undertaken. First, the participants were attending the meeting to both gather information and, importantly, to provide official comments regarding an upcoming project as part of the NEPA project. For that reason, the interviewers could not ask any questions nor record any comments associated with the particular project for which the meeting was being held.

Likewise, unless we wanted to obtain informed consent of the attendees, we were precluded from obtaining any personally identifiable information for any of the interview subjects. Thus, our record of an interview consists of: (1) the number of people participating in the interview (1–3 persons per "interview"; during the project 231 persons were involved in the 151 interviews for an average of 1.53 persons per interview); (2) their gender (in this project there were 121 males and 110 females among the 231 individuals); and (3) their estimated ages (based on estimated 10-year bins, the median age was estimated to be between 45 and 55, but these estimates could not be independently verified).

Survey and polling methods are fraught with a range of potential biases. Most significantly, there is a tendency for respondents to a survey to supply what they perceive is the "right answer" rather than what their actual opinion or preference is. Often, the best way to avoid receiving the "right answer" is to disguise your true intent (intentional but

nonmalicious deception) by carefully "framing" the conversation in a way that, while not untruthful, is nevertheless deceptive. This approach to evaluation does, however, have some significant drawbacks. It requires both highly trained personnel and preparation of a "script" to properly conduct the interview.

For this project, all members of the research team that were conducting interviews were certified by the Georgia Tech Institutional Review Board (IRB) for conduct of research with human subjects and were provided with a "script" specifically written for a particular meeting. All of the scripts instructed the interviewers as follows:

> *"The interview script is designed to evaluate the effectiveness of certain new and/or existing written and visual materials and to identify ways in which these materials and procedures can be improved. To avoid polling bias, the accompanying script has been created to disguise the ultimate objective of the interview without making untrue statements to the participants. As such, to the extent possible you should limit your questions and discussions to the accompanying script."*

Each interviewer was asked to record the participant responses immediately following the interview (*post hoc*) and to provide their logs to the on-site coordinator at the end of each shift (typically 30 minutes). An example of an interview script and the instructions to the interviewers is provided in Appendix B.

EVALUATION RESULTS

Based on the needs of the project, the focus of the evaluation process shifted several times during the project. Most of these changes were associated with the types of materials being evaluated at the time of each meeting. In total, over the course of the

project there were 151 public interviews completed involving 231 individuals. An additional 16 evaluation interviews were conducted with GDOT personnel not directly involved in the project. A breakdown of the number of interviews conducted by primary evaluation purpose is given in table 6.

Table 6. Number of interviews by primary purpose.

Number of Interviews	Primary Purpose	Number of Meetings
21	Pilot (GDOT Materials)	1
16	Draft Materials	1 (GDOT only)
52	Gen-1 Evaluation	3 (+1 joint)
58	Gen-2 Evaluation	3 (+ 1 joint)
20	Draft Final DLT/CFI	1

Since the purpose of the interviews changed significantly over the course of the project, only a few items can be evaluated across either 8 or 9 of the public meetings. These items are as follows:

- What do you think of the process?
- What do you think of/do you like the video (VISSIM™ simulation)? (8 meetings)
- Are you familiar with roundabouts?
- What do you think of the (roundabout) brochure? (8 meetings)

All of these items demonstrated a positive trend over the course of the project. The overall approval rate of the process moved from approximately 55 percent (average of first three meetings) to 66 percent (average of last three meetings). While a positive trend, since the samples are not random, we cannot say if the actual approval rate has improved, but it is unlikely to have gone down. The other trends are more likely to be significant.

The approval rate for the VISSIM simulations has moved from below 50 percent to greater than 80 percent over the course of the project. This is likely due to both much better simulations (including driver perspectives and more realistic detail) and to much improved display technology (bright widescreen TVs vs. projectors and screens). Familiarity with roundabouts has also changed from about 60 percent to more than 80 percent over the period. Similarly, the approval rating of the current (and Gen-2) roundabout brochures/factsheet stand between 80 and 90 percent versus about 60 percent for the earlier materials.

CHAPTER 4. CONCLUSIONS AND RECOMMENDATIONS

At its inception, this project was designed to produce a library of materials that could be used by GDOT personnel to improve their ability to educate the driving public as to the benefits of installing innovative intersections where they are appropriate. Over the course of the project, it became apparent that these educational materials are but one part of a much bigger effort to educate the public on these issues.

As in every other area, there is great diversity in how people learn and how people react to various situations and, thus, it is not surprising that there is no "one size fits all" solution to informing the public about innovative intersections or, for that matter, any other complex matter. What made this project successful was the unusually close interactions between the research group and the rest of the project team. So much of the two-way knowledge transfer came in simple little ways. A suggestion by a GDOT communications person to a member of the research team that "not everybody knows that word" improved a product much more quickly than would have otherwise happened. Similarly, a suggestion by a researcher that "changing the way that material is presented could help non-native English speakers" allowed a change to be implemented in minutes rather than months.

Based on the experience gained in this project, a number of recommendations should be considered.

RECOMMENDATIONS

1. *Implementation is the ultimate goal of any applied research project.* One of the best ways to ensure implementation is to maintain close interaction between the end users and the researchers. While not every research project can have the same breadth of participation as this one, improvements in implementation can be achieved by maintaining "lower level" contacts between the research team and GDOT staff. Too often, communication between GDOT and its researchers is at the level of the principal investigator (PI) and co-PIs discussing with the GDOT implementation manager rather than the "person who has the information" speaking with the "person who needs the information." Broader participation in project meetings can probably best achieve this.
2. *When dealing with the public, small things matter.* The best educational materials in the world are useless unless they can be distributed. Effective brochures that are "tucked away" in an obscure corner of a room help neither the public nor the agency. Observations at these PIOHs offer ample proof that many hours of work back in the office can be undone by a faulty projector or missing easel. The logistics of the event must be considered just as carefully as the design or presentation materials.
3. *Adaptability is related to efficiency.* An important strength of this research project was the extent that the project workplan could be adapted to changing needs rapidly and effectively. Despite their seemingly excessive time demands, frequent project meetings improve project performance by ensuring that changing conditions are communicated quickly and effectively.

APPENDIX A. ADDITIONAL VIDEOS ILLUSTRATING INNOVATIVE INTERSECTIONS

Reduced Conflict U-Turn Intersections (RCUT)
https://www.youtube.com/watch?v=BLwl01NCp9I
https://www.youtube.com/watch?v=AxIiLzv-GOA
https://www.youtube.com/watch?v=g1SA1mAXmfk

Median U-Turn/Indirect (Michigan) Left-Turn Intersection
https://www.youtube.com/watch?v=fshW_O_XggI
https://www.youtube.com/watch?v=ipuaRxjQifk **- (J Turn)**
https://www.youtube.com/watch?v=jHojQ_LppEw

Roundabouts
https://www.youtube.com/watch?v=35XgSJ-nSdo
https://www.youtube.com/watch?v=zG3ghj_nOwQ
https://www.youtube.com/watch?v=ONacAiKXe-8
https://www.youtube.com/watch?v=fPbWjoSYU1Q
https://www.sgi.sk.ca/handbook/-/knowledge_base/drivers/roundabouts-and-diverging-diamond-interchange

Roundabout Interchanges
https://www.youtube.com/watch?v=ZtOaibop0_g **- just an animation**
https://www.youtube.com/watch?v=ubX3BQAbLM4 **- Carbondale Road animation**

Continuous Green-T (Florida T or "Seagull") Intersection
https://youtu.be/Tp9cXTApg1o **- VDOT (Virginia)**
https://youtu.be/neLaH_CPFdc **- TxDOT (Texas)**
http://attap.umd.edu/wp-content/uploads/2015/11/Continuous-Green-T.mp4?id=0 **- Animation**

Diverging Diamond Interchanges
https://youtu.be/HD-0QnUlLOQ **- NCDOT (North Carolina)**
https://youtu.be/Zd5AatLWvcg **- UDOT (Utah)**
https://youtu.be/5gLxlXamhgY **- WSDOT (Washington State)**
https://youtu.be/eLAwwl3EtN4 **- US DOT (FHWA)**
http://www.divergingdiamondinterchange.org/intersections/show/IntersectionTypeId:9/ (Places that have DDI)

Quadrant Intersection
https://youtu.be/D0EU07YJYC4 **- VDOT (Virginia) Animation**
https://youtu.be/eJwYLr88WsA **- VDOT (Virginia) Animation #2**
https://youtu.be/HfVvqymHHjk **- VDOT (Virginia) Animation #3**

https://youtu.be/ZtIL2GqQJbs **- NCDOT (North Carolina)**

Continuous-Flow Intersection / Displaced Left-Turn Intersection
https://youtu.be/H1ZtO9cwmyY **- VDOT (Virginia) Animation**
https://youtu.be/oVI3Ledw7mc **- UDOT (Utah) Animation**
https://youtu.be/BbwYIRortRg **- MDOT (Mississippi)**
https://youtu.be/3wIv0a9fuB0 **- US DOT (FHWA)**

APPENDIX B. SAMPLE PIOH INTERVIEW SCRIPT

GDOT2019_062119_PIOH

For use at PIOH PI#631550 Murray County, SR 225@SR 52 and @ CR 48/Spring Place Smyrna Road. Evaluation of process, video and brochures.

1.Objective

Evaluate current and draft roundabout brochure; evaluate roundabout video and project presentation materials; evaluate overall process response.

2.Survey Candidates

Public participants at PIOH. Interview GDOT or contractor personnel only with approval of on-site lead.

3.Candidate Pool

- ( ) Balance by Age
- ( ) Balance by Gender
- (•) Balance by Participation
- ( ) Volunteer
- ( ) Preselected
- ( ) As Directed
- ( )

4.Personally Identifiable Information

- ( ) Yes (IRB Approval Required)
- (•) No

5.Survey Type

- ( ) Form
- ( ) Interview (contemporaneous)
- (•) Interview (post hoc)
- ( ) Focus Group
- ( )

6.Approach Method

- [ ] Active Direct
- [x] Active Indirect
- [x] Passive

7.On Site Leader

Dr. Michael O. Rodgers

8.Notes

Scripted interview with post hoc recording. Collect no personally identifiable information. To the extent possible, restrict conversation to script. No project specific comments to be recorded.

Overview

A series of interviews will be conducted during the public information meeting on the referenced project. Since this is part of a formal NEPA process, we must neither ask nor record any project specific information as part of these interviews. Participation is voluntary and no incentives will be offered or provided. The interview script is designed to evaluate the effectiveness of certain new and/or existing written and visual materials and to identify ways in which these materials and procedures can be improved. To avoid polling bias, the accompanying script has been created to disguise the ultimate objective of the interview without making untrue statements to the participants. As such, to the extent possible you should limit your questions and discussions to the accompanying script. Please avoid long or detailed discussions with participants as we wish this process to provide a minimal impact on the overall process. Under no circumstances should personally identifiable information (e.g. names, addresses, positions, employer, etc.) be discussed and/or recorded. Limit identification of subjects to approximate age (10 year bins) and sex. Do not interview any participants that you believe may be less than 18 years of age. Do not take photographs or interview GDOT or Contractor personnel without permission from the on-site lead.

Positioning

Position yourself near one end of the presentation board at a location that provides a clear view of both the presentation board(s) and the video screen(s). Orient your body at a 15-30 degree angle to the board to maintain nearly continuous perspective on the board and/or video screen. Avoid locations near GDOT or contractor personnel that may be answering questions regarding the project. The script considers both passive (you are approached) and indirect (you approach) interactions with potential interview participants. Please note the identifying remarks and framing statements provided and ensure that each participant receives this information.

Approach Method

The most desirable method is for a passive approach and you should provide a significant interval (15 to 30 seconds) to allow a potential participant to approach you. After this interval, you may choose to approach a potential participant. As described above, please ensure that the identifying and framing statements are provided to each participant. If the approach is unsuccessful, please move to another location to give the participant full access to the presentation materials. In making your approaches, please attempt to balance your interviews to reflect the age and sex of the overall participant pool.

Recording Method

Post Hoc recording of responses upon completion of interview. All responses should be recorded and reviewed before initiating the next interview. Please supply your logs to the coordinator after each shift.

Questions

If you have any concerns or encounter any difficulties, please contact the on-site lead immediately.

Active Approach

There (certainly are/don't seem to be) a lot of people here.

-or-

GDOT certainly brought a lot of people to this meeting.

-or-

That certainly is one long map.

Passive Approach

"Are you from GDOT?"

"Do you live around here?"

"Can you help me with this?"

Framing Statement

No, I'm from Georgia Tech. We're interested in public meetings and since GDOT has been doing these for a long time, we thought that we should come and see what we could learn about how to do them.

<Participant Response>

<terminate>

-or-

Have you been to one of these public meetings before?

<Participant Response>

Is this similar to what you've been to before? … Is it better or worse?... Why did you stop by?

-or-

Is this what you expected?... Why did you stop by?

<Participant Response>

This map is really interesting. I see that this project has a roundabout. Are you familiar with those?

<Participant Response>

What do you think of them?

<Participant Response>

I think that there is a video on that screen that shows a roundabout. **Point to Screen**

<Note Participant Response or lack thereof>

GDOT is also handing out these brochures. **Hand out Brochures** *They don't seem to be quite the same,* **(pause while they examine).**

<Participant Response (spontaneous)>

-if required-

What do you like about each one?

<Participant Response>

Anything that you don't like?

<Participant Response>

That's great. What do you think of the meeting so far?

<Participant Response>

If we were to try and do one of these meetings at Georgia Tech, what should we make sure that we do like GDOT and what should we change?

<Participant Response>

Thanks so much for your time. I hope that you enjoy the rest of the meeting.

<Note any substantive closing remarks>

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