Managing Traffic for Improved Access to Voting Events

Document Purpose

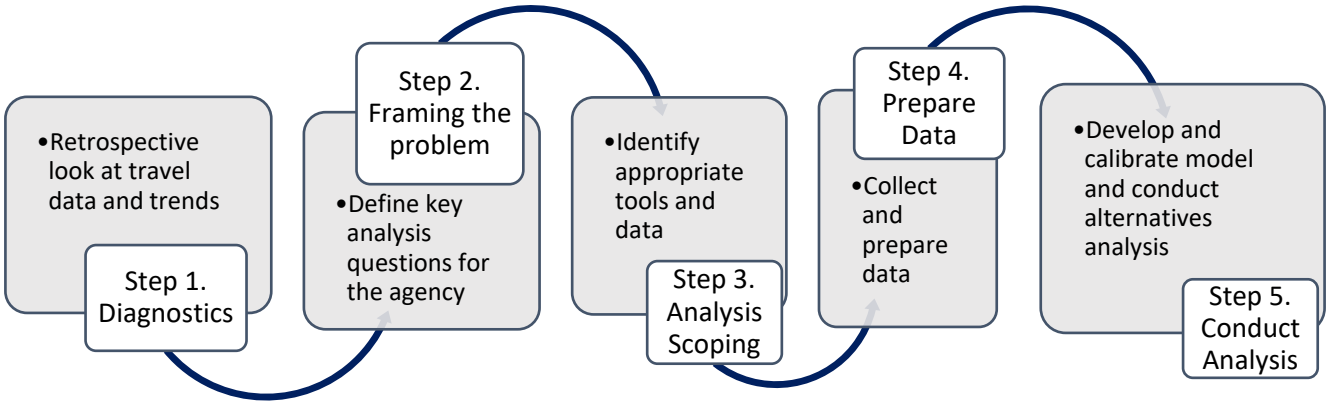
The Federal Highway Administration (FHWA) Office of Operations supports the use of traffic analysis and enhanced work zone management to improve access to voting events. This effort aids the Department of Transportation's (USDOT's) support for Executive Order (EO) 14019 Promoting Access to Voting.

This document provides a list of resources intended to help State and local agencies understand potential traffic impacts on, and leading up to, voting events.

Resources Related to Traffic Analysis

Below find descriptions of the resources. Starting on page 6, the resources are organized in their envisioned application in the following five steps.

Figure 1. Process for Conducting Traffic Analysis for Voting Events



U.S. Department of Transportation
Federal Highway Administration

Summary List

Title	Summary	Source
Considerations of Current and Emerging Transportation Management Center Data (FHWA-HOP-18-084)	This report examines the state of the practice and emerging trends in data, business models, and applications for transportation management centers. It provides an understanding of what is available, how it is collected, the business models used by the companies that sell it, acceptable uses of the data, and possible data use cases. It also includes contract considerations for working with private sector data.	FHWA
FHWA Every Day Counts (EDC): Crowdsourcing for Operations Frequently Asked Questions (FAQs) (FHWA-HOP-19-036)	This document provides an overview of crowdsourced data, considerations for implementing crowdsourced data, and potential funding opportunities through the EDC Program.	FHWA
FHWA EDC: Crowdsourcing for Operations Case Study City of Louisville, Kentucky (FHWA-HOP-20-056)	This case study provides an overview of how the City of Louisville developed an open-source tool to process Waze® data and how Waze® data is used to identify mobility hot spots.	FHWA
FHWA Travel Monitoring Analysis System (TMAS)	The TMAS is a tool to visualize U.S. traffic volume, classification, and weight data based on temporary and continuous traffic counting programs collected by State highway agencies and reported to FHWA monthly.	FHWA
Guidance on The Level of Effort Required to Conduct Traffic Analysis Using Microsimulation (FHWA-HRT-13-026)	This report presents systematic ways to determine the appropriate scope and budget for traffic analysis efforts using microsimulation.	FHWA
Guide on the Consistent Application of Traffic Analysis Tools and Methods (FHWA-HRT-11-064)	This report offers recommendations on the management, planning, and conduct of traffic analysis that will promote greater traffic analysis tool consistency over the typical project development life cycle.	FHWA

Title	Summary	Source
Scoping and Conducting Data-Driven 21st Century Transportation System Analyses (FHWA-HOP-16-072)	This FHWA report describes a four-step process (system diagnostics, scoping, preparing data, and analysis) for transportation system management organizations to successfully achieve their objectives and realize several important positive outcomes related to greater insight, better analyses, and reduced costs and risks when performing transportation analyses.	FHWA
Scoping and Conducting a Traffic Study to Meet Community Needs	This brief FHWA video discusses the steps taken to complete a traffic study. The video can be used to help create an outline of the scope and some ideas to consider while drafting the scope of work and conducting a traffic analysis.	FHWA
Traffic Analysis Toolbox Volume I: Traffic Analysis Tools Primer (FHWA-HRT-04-038)	This primer serves as an introduction to traffic analysis tools and describes the different categories of tools and challenges and limitations in using traffic analysis tools.	FHWA
Traffic Analysis Toolbox Volume II: Decision Support Methodology for Selecting Traffic Analysis Tools (FHWA-HRT-04-039)	This report is a comprehensive guide that presents criteria for selecting the appropriate traffic analysis tool and provides a methodology for readers to use the criteria to select an appropriate tool.	FHWA
Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software 2019 Update to the 2004 Version (FHWA-HOP-18-036)	This report provides practitioners with guidance on the appropriate application of microsimulation models to traffic analysis problems, with an overarching focus on existing and future alternatives analysis.	FHWA
Traffic Analysis Toolbox Volume VI: Definition, Interpretation, and Calculation of Traffic Analysis Tools Measures of Effectiveness (FHWA-HOP-08-054)	This report provides guidance on measures of effectiveness, how they should be produced and interpreted, and how they are defined and calculated in traffic analysis tools.	FHWA

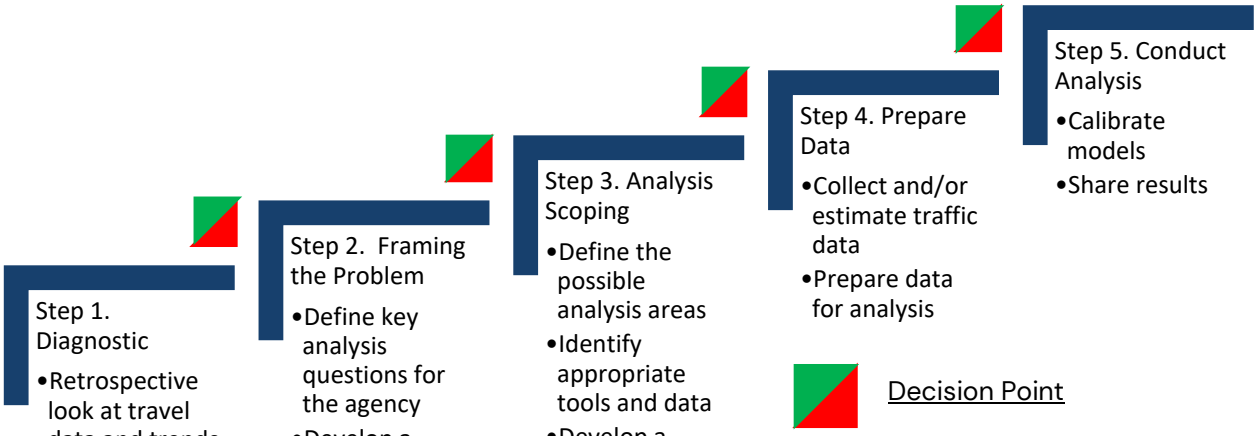
Title	Summary	Source
Traffic Analysis Toolbox Volume X: Localized Bottleneck Congestion Analysis Focusing on What Analysis Tools Are Available, Necessary and Productive for Localized Congestion Remediation (FHWA-HOP-09-042)	This report discusses when, where and how to study small, localized sections of a facility in cost-effective means. It provides guidance that specifies the choice of analysis tools and inputs necessary to analyze localized problem areas. It also provides some guidance as to when analysis is warranted, and what data inputs are required.	FHWA
Traffic Bottlenecks: Identification and Solutions (FHWA-HRT-16-064)	This document provides methods for identifying, prioritizing, and mitigating traffic bottlenecks.	FHWA
Traffic Data Computation Method Pocket Guide (FHWA-PL-18-027)	This guide succinctly provides computational methods for selected traffic data items. The audience includes anyone involved in the collection, processing, analysis, utilization, and reporting of traffic data.	FHWA
U.S. Traffic Volume Data	State highway agencies collect traffic volume data through both temporary and continuous traffic counting programs and report their continuous counting data to FHWA monthly. The raw data, dating back to 2011, is located here.	FHWA
Institute of Transportation Engineers (ITE) *Unsignalized Intersection Improvement Guide*	This guide assists practitioners in selecting design, operational, maintenance, enforcement, and other types of treatments to improve safety, mobility, and accessibility at unsignalized intersections.	ITE
Institute of Transportation Engineers (ITE) Traffic Engineering Handbook, 7th Edition	This handbook provides guidance and instruction on traffic engineering solutions. The 7th edition provides updated content reflecting changes in key industry standards and shines a spotlight on the needs of all users, the design of context-sensitive roadways, and the development of more sustainable transportation solutions.	ITE
Institute of Transportation Engineers (ITE) *Manual of Transportation Engineering Studies*, 2nd Edition	This is a "how to" manual on conducting various studies using standardized study techniques and current technologies.	ITE

Title	Summary	Source
National Cooperative Highway Research Program (NCHRP) Report 765: Analytical Travel Forecasting Approaches for Project-Level Planning and Design	This report describes methods, data sources, and procedures for producing travel forecasts for highway project-level analyses.	NCHRP
NCHRP Report 825: Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual (HCM)	This guide helps users apply the methodologies of the 6th Edition of the HCM to common planning and preliminary engineering analyses, including scenario planning and system performance monitoring.	NCHRP
NCHRP Report 812: Signal Timing Manual, Second Edition	This manual covers fundamental and advanced concepts related to traffic signal timing. It also addresses ways to develop a signal timing program based on the operating environment, users, user priorities by movement, and local operational objectives.	NCHRP
NCHRP Synthesis 561: Use of Vehicle Probe and Cellular Global Positioning System (GPS) Data by State Departments of Transportation	This report documents how transportation agencies are applying vehicle probe and cellular GPS data for planning and real-time traffic and incident monitoring and communication.	NCHRP
National Performance Management Research Data Set (NPMRDS)	This data set provides vehicle probe-based travel time data for passenger vehicles and trucks in five-minute increments for all National Highway System roadways.	NPMRDS
Highway Capacity Manual (HCM), 7th Edition	The HCM provides methods for quantifying highway capacity. It serves as a fundamental reference on concepts, performance measures, and analysis techniques for evaluating the multimodal operation of streets, highways, freeways, and off-street pathways.	TRB

Resources Organized by Traffic Analysis Steps

Resources in each of these steps help agencies diagnose the problems, define the scope, select analysis approaches and tools, and apply them effectively to meet their needs and contexts. At each step, resources identified in the following tables help an agency answer key questions and move to the next step, if necessary, as shown in figure 2.

Figure 2. Key Questions and Considerations for Each Traffic Analysis Process Step



Decision Point

- Step 1 to Step 2 – Is there a problem identified that can potentially be addressed through traffic analysis?
- Step 2 to Step 3 – Are we able to generate a problem statement with a clear analysis objective?
- Step 3 to Step 4 – Are we able to identify and agree on the appropriate traffic analysis tool and other scoping elements to support the analysis objectives within the context of the scope of work?
- Step 4 to Step 5 – Do we have sufficient data to perform the analysis?

Step 1. Diagnostics	
Goal	Resources in this section help an agency focus on retrospectively identifying potential issues that may hinder travel to polling sites on voting day(s) and determine if traffic analysis would help shed more light on those issues. In general, there are two methods to identify potential mobility issues on voting day(s). One is through retrospective discussion with stakeholders using the following questions to guide the discussion. The other method is data-driven, using the resources in this step. Data-driven methods use objective information, and the decisions to be made as part of this step are not based on recollection or intuition. If no issues are identified, then subsequent traffic analysis steps are not necessary.

Questions to Ask	• Have there been issues in the past that have hindered travel to polling sites, and is it anticipated that these issues will reoccur with the upcoming election?
	  ○ Have we anecdotally heard about traffic issues?
	  ○ Looking back at our data (Traffic Management Center [TMC] logs, traffic volumes, data from traffic studies), do we notice anything unusual?
	• Have there been any changes since the last election that could cause new mobility issues for the upcoming election?
	• Are there particular voting locations that are of special interest in terms of mobility due to their location on the network, concerns about access, weather, etc.?
	• Are there currently locations of poor mobility or underserved communities that would likely become exacerbated during the voting event?
	• If there are mobility issues, would a traffic analysis help to understand the issues and identify strategies to mitigate these issues on voting day(s)?

Available Resources	Potential data sources: • The National Performance Management Research Data Set (NPMRDS) provides vehicle probe-based travel time data for passenger vehicles and trucks in 5-minute increments for all National Highway System roadways. This data can be reviewed to identify hotspots on a typical day, or the historical data may show traffic conditions during past voting events. • As part of the Travel Monitoring Analysis System (TMAS) data program, all State highway agencies collect traffic volume data and report their data to FHWA on a monthly basis. The raw data can be found at the U.S. Traffic Volume Data website. The United States Department of Transportation (USDOT) Public Data Portal also provides a tool to visualize the data, the FHWA Travel Monitoring Analysis System. The visualization tool is helpful for viewing traffic flow intensity by hour of day for an individual count station to home in on when traffic conditions may be at their worst. • The FHWA Crowdsourcing for Operations Case Study (FHWA-HOP-20-056) of the City of Louisville, Kentucky, provides an overview of how the city collects and analyzes Waze® data to identify hot spots. The case study also links to an open-

Step 1. Diagnostics	
	source tool that the City of Louisville developed to process and use Waze® data for analyses. • Agency-collected traffic and incident data might be valuable in this step. These datasets may be at the TMC or other archives like Regional Integrated Transportation Information System (RITIS) or the Transportation Operations Coordinating Committee (TRANSCOM) Regional Event Exchange Platform that are available to the agency. Methods for identifying hotspots and problem locations: • Module 1 of *Scoping and Conducting Data-Driven 21st Century Transportation System Analyses* (FHWA-HOP-16-072) discusses diagnostics to identify problematic elements of current system performance. It provides insight as to how data-driven observations and non-data observations can be used to pinpoint the nature, severity, and root causes of poor system performance. • Part 3.S of *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual* describes how to identify mobility problem spots using travel time information from NPMRDS. • Chapter 2 of *Traffic Bottlenecks: Identification and Solutions* (FHWA-HRT-16-064) discusses recent improvements in bottleneck identification and includes an overview of conventional methods and data-driven methods for identifying bottlenecks. • ITE's *Unsignalized Intersection Improvement Guide* offers four methods for local agencies to identify problem locations: input from the public, police investigation, inspections by staff, and review of crash data. It provides guidance on how each method can be used to monitor agency roads and intersections.
Outputs	• Identification of locations that may have potential mobility issues on voting day(s). • Determination whether a traffic analysis would be beneficial to help address the potential mobility issues on voting day(s).

Decision Point	• Is there a problem identified that can potentially be addressed through traffic analysis?
	  ○ Yes – Proceed to step 2.
	  ○ No – There is no need to proceed with completing a traffic analysis.

Step 2. Framing the Problem	
Goal	Agencies can use the resources in this section to help develop the key questions, goals, and objectives of the traffic analysis and frame the problem statement to be used as a basis for developing the scope of work in step 3.
Questions to Ask	• What are the key questions, goals, and objectives for the traffic analysis? • What measures of effectiveness (MOE) or performance measures should be reported by the traffic analysis? • Does the agency have enough resources and time to complete the traffic analysis? • Can a clear problem statement be identified that justifies the need to proceed with traffic analysis?
Available Resources	• Module 1 of *Scoping and Conducting Data-Driven 21st Century Transportation System Analyses* (FHWA-HOP-16-072) provides insight into developing preliminary analytics problem statements. • *Traffic Analysis Toolbox Volume VI: Definition, Interpretation, and Calculation of Traffic Analysis Tools Measures of Effectiveness* (FHWA-HOP-08-054) is a useful resource that provides guidance on MOEs, how they should be produced and interpreted, and how they are defined and calculated in traffic analysis tools. • Chapter 4 of the *Guide on the Consistent Application of Traffic Analysis Tools and Methods* (FHWA-HRT-11-064) discusses how to select MOEs related to the purpose of the project and provides a table of the types of MOEs that are produced by different types of traffic analysis tools (table 4).
Outputs	• Key questions, goals, and objectives of the traffic analysis. • Performance measures/MOEs mapped from the goals and objectives that can be captured by the traffic analysis. • Problem statement to help develop the scope of work.

Decision Point	• Are we able to generate a problem statement with a clear analysis objective?
	  ○ Yes – Proceed to step 3.
	  ○ No – Use the resources provided to refine the problem statement and objectives. If a clear analysis objective cannot be determined, then a traffic analysis should not be performed and there is no need to proceed to step 3.

Step 3. Analysis Scoping	
Goal	Agencies can use the resources in this step to develop a scope of work to be used as a guide for performing the traffic analysis.

Step 3. Analysis Scoping	

Questions to Ask	• What are the geographic limits of the traffic analysis?
	• What facility types and travel modes should be analyzed?
	• What time period(s) should be analyzed? For example, it may be necessary to only examine the morning peak period or the estimated peak hour of voting.
	• What type of tool is best suited for the traffic analysis?
	• What data is available to perform the analysis? Will data need to be collected to fill in gaps and sufficiently perform the analysis?
	  ○ Is past voting day(s) traffic data available?
	  ○ Is voting trend data (e.g., hour-by-hour breakdown of number of voters) for polling locations available?
	• What is the estimated cost, schedule, and responsibilities for the traffic analysis?

Available Resources	Scoping the traffic analysis: • *Guidance on The Level of Effort Required to Conduct Traffic Analysis Using Microsimulation* (FHWA-HRT-13-026) has a sample microsimulation scope and solicitation template in chapter 3 which can be adapted to create a scope of work for traffic analysis for voting events. • *Scoping and Conducting a Traffic Study to Meet Community Needs* is a brief FHWA video that discusses the steps taken to complete a traffic study. The video can be used to help create an outline of the scope and some ideas to consider while drafting the scope of work for the traffic analysis. • Module 2 of *Scoping and Conducting Data-Driven 21st Century Transportation System Analyses* (FHWA-HOP-16-072) provides a thorough guide for scoping a traffic analysis. It discusses cost implications depending on the level of complexity of the analysis, reviews basic data requirements and potential data sources, and includes a scoping tool to develop ballpark estimates of hours to complete the tasks needed to support a traffic analysis. • Selecting an appropriate traffic analysis tool is a critical part in performing traffic analysis for voting events. The type of traffic analysis tool should be commensurate with the resources that are available and the goals and objectives of the traffic analysis. Three resources are available to assist with selecting the appropriate traffic analysis tool. ○ The *Traffic Analysis Toolbox Volume I: Traffic Analysis Tools Primer* (FHWA-HRT-04-038) serves as an introduction to traffic analysis tools and describes the different categories of tools and challenges and limitations in using traffic analysis tools.

Step 3. Analysis Scoping	
	○ *Traffic Analysis Toolbox Volume II: Decision Support Methodology for Selecting Traffic Analysis Tools* (FHWA-HRT-04-039) is a comprehensive guide that presents criteria for selecting the appropriate tool and provides a methodology for readers to use the criteria to select an appropriate traffic analysis tool. Appendix E shows a variety of traffic analysis tools that are categorized by the complexity of the analysis. ○ *Traffic Analysis Toolbox Volume X: Localized Bottleneck Congestion Analysis Focusing on What Analysis Tools Are Available, Necessary and Productive for Localized Congestion Remediation* (FHWA-HOP-09-042) includes a worksheet (appendix A) to help users select the appropriate category of traffic analysis tool, which can be a useful reference when developing the scope of work.
Outputs	• Detailed scope of work for the traffic analysis.
Decision Point	• Are we able to identify and agree on the appropriate traffic analysis tool and other scoping elements to support the analysis objectives within the context of the scope of work? ○ Yes – Proceed to step 4. ○ No – Revise the scope of work such that an appropriate traffic analysis tool and/or other scoping elements can be agreed upon.

Step 4. Prepare Data	
Goal	Preparing reliable data is a critical step in ensuring the traffic analysis results are valid and trustworthy. Forecasting travel for a voting event may prove difficult, given the infrequency of the event and potential lack of data collected during past voting events. The resources in this section can help agencies fill in the data gaps and prepare the data to be used for the traffic analysis.
Questions to Ask	• Are there gaps in the data that need filling to complete the traffic analysis? There can be gaps in the baseline data, where the analyst does not have existing data for the focus area that is to be analyzed. There can also be gaps in the forecasted data, where the analyst does not have data related to the anticipated number of trips to the voting location within the focus area and during the analysis timeframe. • If there are data gaps, consider how the gaps will be filled: ○ Are there resources available to collect the missing baseline data? ○ Can we estimate the missing baseline data? ○ Can we supplement the baseline data with third-party probe data?

Step 4. Prepare Data	
	○ Can we forecast travel patterns during the voting event by using historical voting data?
Available Resources	Data preparation and data gaps: • Module 3 of *Scoping and Conducting Data-Driven 21st Century Transportation System Analyses* (FHWA-HOP-16-072) discusses data preparation for transportation analyses. It addresses data gaps and quality control of data. If collecting traffic data as part of the scope of work: • Appendix E of the *Manual of Transportation Engineering Studies, 2nd Edition* has a number of templates and worksheets for manually collecting data. • Exhibit 3-11 of the *Signal Timing Manual, Second Edition* is a useful checklist of the types of information that should be collected to perform a traffic analysis, including traffic characteristics, intersection geometry, and signal timing characteristics (if applicable). • Chapter 4 of the *Traffic Engineering Handbook, 7th Edition* provides instructions on collecting traffic data manually and through automatic counts. If estimating baseline data as part of the scope of work: • *Analytical Travel Forecasting Approaches for Project-Level Planning and Design* is a comprehensive guide on methods to forecast traffic volumes. It includes a supplemental CD with companion data and spreadsheet tools to assist with forecasting traffic volumes. • Part 1.D of *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual* describes methods for generating estimated intersection turning movement volumes from link volumes. If supplementing data with third-party probe data: • *Considerations of Current and Emerging Transportation Management Center Data* (FHWA-HOP-18-084) provides an overview of different types of data sources (chapter 2) and provides guidance on how to procure the data (chapter 4). • *Use of Vehicle Probe and Cellular GPS Data by State Departments of Transportation* is a document summarizing the results of a survey conducted to determine how State DOTs are using third-party data. Figure 2 shows the data providers used by agencies. • The FHWA's Every Day Counts initiative has a Frequently Asked Questions document on *Crowdsourcing for Operations* (FHWA-HOP-19-036) that provides an overview of crowdsourced data, considerations for implementing crowdsourced data, and potential funding opportunities through Every Day Counts. Seasonal adjustments:

Step 4. Prepare Data	
	• Before proceeding with the traffic analysis, the data should be adjusted to account for the month and day of week the data was collected, compared to the analysis time period. Page 50 of the *Traffic Data Computation Method Pocket Guide* (FHWA-PL-18-027) explains these factors. Most State DOTs publish adjustment factors to be used in performing traffic analysis.
Outputs	• Formatted and validated data to be used in the traffic analysis.

Decision Point	• Do we have sufficient data to perform the analysis?
	  ○ Yes – Proceed to step 5.
	  ○ No – Go back to step 2 and revise the goals and objectives, problem statement, and/or measures of effectiveness for the traffic analysis, as necessary. Then proceed to step 3 and refine the scope of work to reconcile with the data that is available. This may require selecting a new analysis tool, revising the schedule, and/or adjusting the budget. After the scope is updated to incorporate the data that is available, step 4 and this decision point can be revisited.

Step 5. Conduct Analysis	
Goal	The resources in this section provide guidance to agencies performing the traffic analysis. Clear insight into mobility conditions during upcoming voting day(s) will help determine if the agency should apply mitigation strategies during the event.
Questions to Ask	• Are we using the right tool for the traffic analysis? • Do we have all the data needed to perform the analysis? • Is the model adequately calibrated? ○ After the analysis is performed, did the analysis produce the performance measures/MOEs that were identified in step 2?
Available Resources	Highway Capacity Manual: • The *Highway Capacity Manual, 7th Edition* provides methods for analyzing a variety of transportation modes and facilities. Volume 1, chapter 6 of the HCM discusses the three different types of tools that are in the manual (operations-level tools, application of defaults to operations-level tools, and planning-level tools) and provides guidance on using alternative tools outside the scope of the HCM. Volume 2 of the HCM provides instruction on analyzing uninterrupted flow facilities (freeways and two-lane highways). Volume 3 provides instruction on analyzing interrupted flow facilities, such as signalized intersections, stop-controlled intersections, and roundabouts. Volume 3 also provides methodologies for evaluating pedestrian and bicycle service.

Step 5. Conduct Analysis

Performing a sensitivity analysis/stress test:

- If there are gaps in the data that cannot be filled, it may be prudent to perform a sensitivity analysis to answer "what if" questions. Rather than analyze specific conditions that are anticipated for the voting event, the analyst can analyze multiple "what if" scenarios with varying travel conditions. Chapter 11, section 2.1 of the *Manual of Transportation Engineering Studies, 2nd Edition* describes the steps to take to perform a sensitivity analysis.
- Similar to a sensitivity analysis, an analyst may use service volume tables to estimate the maximum daily or hourly volume that a roadway segment can accommodate under a set of assumed conditions. The *Highway Capacity Manual, 7th Edition* provides generalized service volume tables for the facilities shown below. In addition, appendix B of chapter 6 provides a method for creating local service volume tables.
    - Basic freeway segments (exhibits 12-39 and 12-40)
    - Multilane highways (exhibits 12-41 and 12-42)
    - Urban street facilities (exhibit 16-16)
    - Signalized intersections (exhibit 19-41)

Performing sketch planning traffic analysis:

- Critical movement analysis is a simplified technique to estimate traffic signal timing parameters and phasing and allows an analyst to identify the critical phase pairs at an intersection, calculate the critical volume, and approximate the required cycle length. Chapter 5.2 of the *Signal Timing Manual, Second Edition* walks through the steps to perform a critical movement analysis at a signalized intersection.
- *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual* is a useful document that provides simplified methods of performing *Highway Capacity Manual* analyses. The resource includes step-by-step instructions for analyzing various facilities manually (no software needed) and has worksheets to help perform the analysis.

Performing microsimulation traffic analysis:

- In most cases, a microsimulation traffic analysis will not be performed to prepare for voting events. In rare instances, there will be a need for microsimulation, such as the need to analyze the interaction of pedestrians and vehicles at the access driveway to a polling site parking lot or the need to analyze complex geometries or operational strategies beyond the capabilities of other methods. If microsimulation is used, *Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software 2019 Update to the 2004 Version* (FHWA-HOP-18-036) provides guidance for creating a base model (chapter 3), checking for errors (chapter 4), calibrating the model (chapter 5), and analyzing alternatives

Step 5. Conduct Analysis	
	(chapter 6). The FHWA also created a supplemental video series explaining how the guidelines can be applied. Calibrating traffic analysis tool: • Module 4 of *Scoping and Conducting Data-Driven 21st Century Transportation System Analyses* (FHWA-HOP-16-072) discusses calibration of the analysis tool before performing the alternatives analysis for voting events. Reporting and communicating results: • Chapter 7 of the *Guide on the Consistent Application of Traffic Analysis Tools and Methods* (FHWA-HRT-11-064) provides guidance on effectively communicating the results of a traffic analysis. The chapter discusses the six principles of effective communication of results and includes a quick guide to data presentation techniques (table 8). • Module 4 of *Scoping and Conducting Data-Driven 21st Century Transportation System Analyses* (FHWA-HOP-16-072) provides guidance on reporting results and creating a Project Results Summary document. The Project Results Summary captures lesson(s) learned from the scoping and analysis process and other information that will be a useful reference when performing future traffic analyses for voting events.
Outputs	• Report and/or presentation of findings and results from performing the traffic analysis.