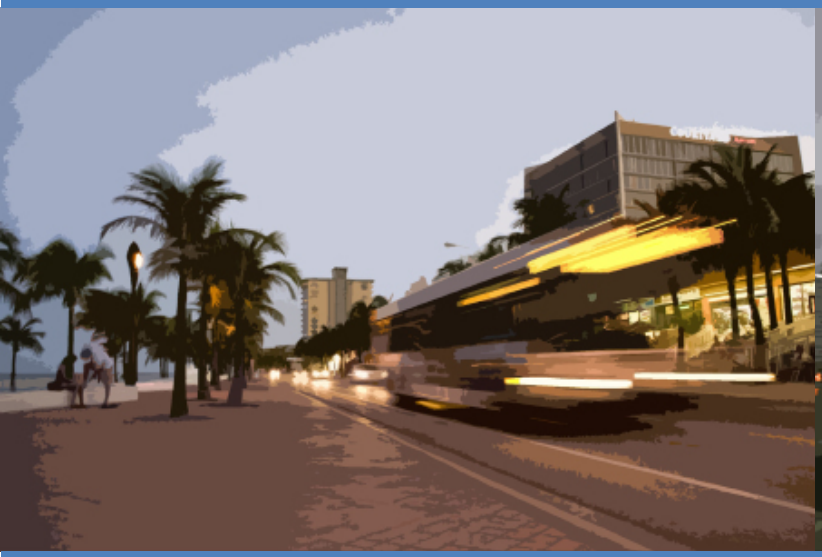
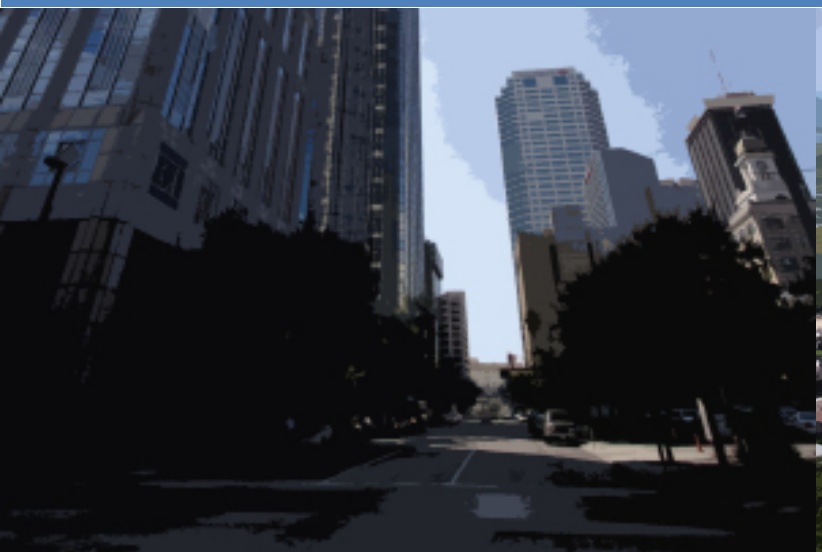
Long Range Transportation Plan Citizen-Friendly Best Practices



Florida Department of Transportation
Office of Policy Planning



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Introduction

Best Practices of Citizen-Friendly LRTPs

Beginning in 1962 with the passage of the Federal-Aid Highway Act, the expenditure of federal surface transportation funds has required metropolitan areas to develop plans based on a continuing, cooperative, and comprehensive (3-C) planning process. The 3-C metropolitan transportation planning process is governed by Federal law and regulations found in Title 23 United States Code (USC) Section 134, Title 49 USC Section 5303, and codified in Title 23 Code of Federal Regulations (CFR) Part 450.

As a result of the 1973 Federal-Aid Highway Act, the 3-C planning process was expanded and the creation of Metropolitan Planning Organizations (MPOs) for areas with an urbanized population greater than 50,000 people was authorized. A key component of the 3-C planning process is the requirement that MPOs develop a 20-year (or more) Long Range Transportation Plan (LRTP). The requirements for the development and contents of an MPO's LRTP can be found in Title 23 USC Section 134(i), Title 49 USC Section 5303(i), and Title 23 CFR Part 450.322. Typically, LRTPs can be rather lengthy documents to read and in many instances can be somewhat less than user-friendly. Therefore, this effort was undertaken as a means to conduct a national scan of MPOs to identify "best practice" examples of citizen-friendly LRTPs that may be beneficial to MPOs within Florida.

As part of the review, it is acknowledged that MPOs are obligated to comply with numerous federal regulations. While this research may be beneficial in guiding MPOs to develop a more citizen-friendly LRTP, it is by no means an exhaustive list of the elements that are required for inclusion in an LRTP. For each LRTP practice that is being recommended as a "best practice," it is assumed the LRTP meets, or exceeds, all federal requirements for the development of a long range plan. In addition, our analysis embodied a set of key principles, which explicitly assumes that LRTPs should be:

- Developed with a clear vision,
- Easy to access via the MPO's website,
- Easy to read and understandable by the general public,
- Of a reasonable page-length,
- Sub-divided into meaningful sections (while being cognizant of federal requirements),
- Free of excess information that could reasonably be located in ancillary documents (e.g., travel forecast model validation reports), and
- Inclusive of appropriate methods for presenting the report's content (e.g., easy to understand charts and visual aids).

Methodology

The review of LRTP best practices looked at plans from around the country, excluding LRTPs from Florida. The evaluation process included five key steps (see the **Appendix** for a detailed description):

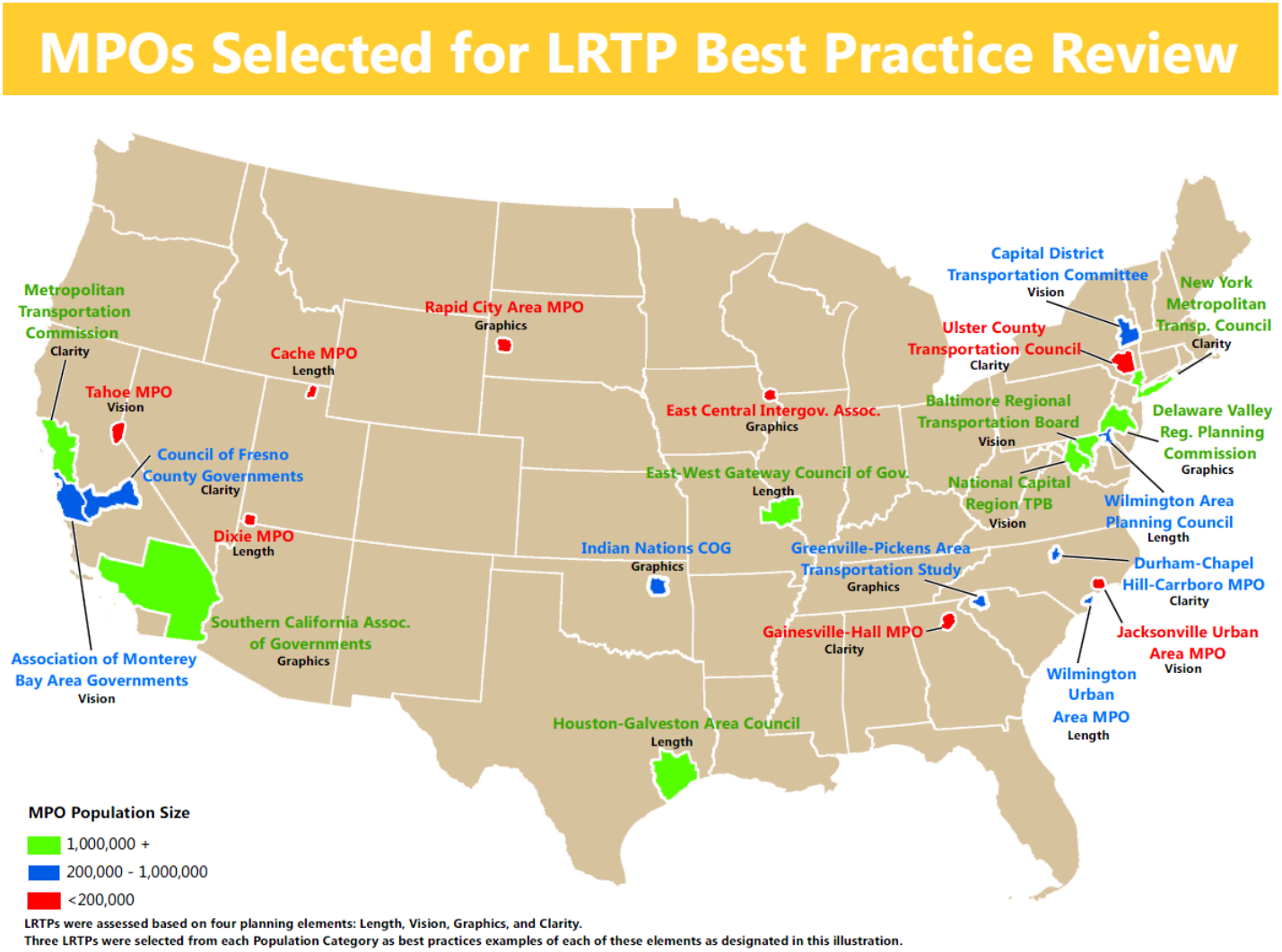
1. Categorization of MPOs by Population and Location,
2. Initial Review of LRTPs from Major Metropolitan Areas,
3. Development of Criteria to Review LRTPs,
4. Coordination with Federal Highway Administration (FHWA) and Florida's Metropolitan Planning Organization Advisory Council (MPOAC), and
5. Evaluation of Select LRTPs.

Introduction

The key principles were distilled into four (4) criteria that were used to assess LRTPs. The goal was to have LRTPs that rate high on all four criteria. However, some LRTPs scored well on some of the criteria while not as well on others. As a result, best practices are being recognized for each individual criterion—not as complete LRTPs.

Of the 359 MPOs throughout the United States (excluding Florida's 26 MPOs), LRTPs from 137 MPOs were assessed on four criteria related to citizen-friendliness: (1) length, (2) clarity, (3) graphics, and (4) vision, in order to determine which LRTPs should be selected for further review and recommendation as a best practice. Ideally, it would be desirable for an LRTP document to meet all four criteria. The methodology on how the LRTPs were selected can be found in the **Appendix**. **Figure 1-1** below graphically depicts the final set of LRTPs that exemplify long range planning "best practices." The map shows the location, population, and criteria utilized underneath the name of each MPO.

Figure 1-1: MPOs Selected for Best Practice



This report is structured into sections that outline the analysis and findings of the selected best practices. The following sections describe the length, clarity, graphics, and vision criteria as applied in the review process, along with best practice examples. Links to the respective MPO websites are also provided in the **Appendix** to facilitate access of the reviewed LRTPs.

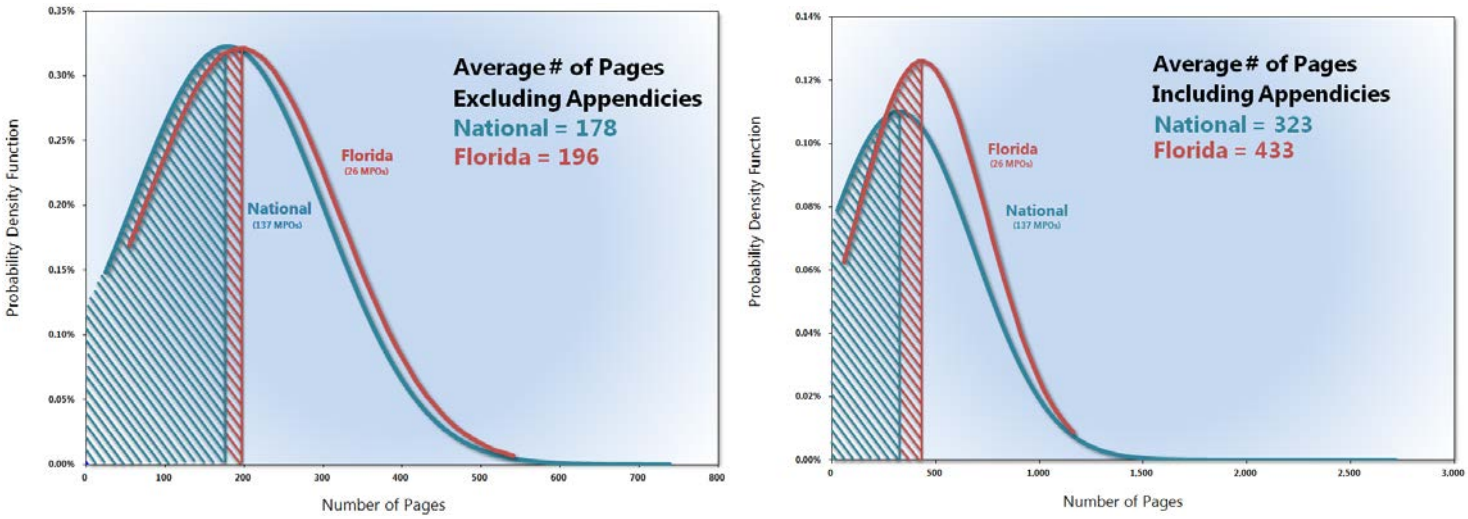
Length

Introduction to Length Assessment

The length of a document and the ability of the reader to comprehend its information are correlated. The longer a report is the less likely it is that a reader will read the entire document (or even a long chapter within a report). Conversely, shorter reports (and chapters) are more likely to be read. Research has illustrated that shorter sentences (and thereby shorter documents) using concrete terms are easier to comprehend. Also, sentences that are written more like spoken speech (which tends to be shorter than verbose writing) are also easier to comprehend.

Based on the premise that shorter sentences, and thereby shorter documents, are a preferred means in presenting the information in a LRTP to the public, an assessment was conducted of the length of LRTPs. A review of 137 LRTPs from around the country illustrated that the average length of an LRTP was 178 pages (323 pages with appendices). In comparison, Florida LRTPs are on average 196 pages long (433 pages with appendices). **Figure 2-1** depicts the distribution of page length in both National (excluding Florida) and Florida LRTPs. The length of any LRTP must be taken into consideration when assessing the user-friendliness of the plan. Intrinsically, as page length grows, the likelihood that someone will read the document in its entirety decreases. These national and statewide document lengths are indicative of the need for LRTP report consolidation and selective inclusion of information.

Figure 2-1: LRTP Page Length Distributions



Measures of Evaluation

A significant portion of the information included in the LRTPs reviewed is highly relevant material that contributes to the quality of the document. While it is critical to include all pertinent information, it is also critical that MPOs provide information effectively. As a means to assess LRTP Length, the following three sub-measures were employed in the analysis:

- Inclusion of Essential Topics,
- Efficiency of Documentation, and
- Use of Appendices.

Inclusion of Essential Topics entails the review of each chapter within the document and its respective contents to ensure that key federal requirements are included. These issues include the plan horizon, the eight federal planning factors, year of expenditure, whether the plan is fiscally constrained, etc. While this assessment did consider the "inclusion of essential

Length

topics," it is by no means meant to be an exhaustive review to ensure that LRTPs met all applicable requirements. Title 23 CFR 450.306 and 322 may be referenced for the complete set of federal requirements for LRTPs.

Efficiency of Documentation was conducted by reviewing the contents of each chapter of the LRTP in greater depth to assess whether excess information/details, maps, and pages that contain little information have been included. It is understood that the graphical nature of LRTPs may include blank pages or pages dedicated to graphics. The intent of Efficiency of Documentation is geared toward the assessment of the content of the text itself and the direct relevance to LRTP topics.

The Use of Appendices is a critical factor in maintaining an LRTP document of a reasonable length—at least the main body of the LRTP. It is common for LRTPs to reference other MPO or related agency documents within their text which can aid in shortening the document's length. This practice is encouraged if the information is not required but is regarded as helpful in contributing to the readers' overall understanding of the planning process.

LRTP Selection

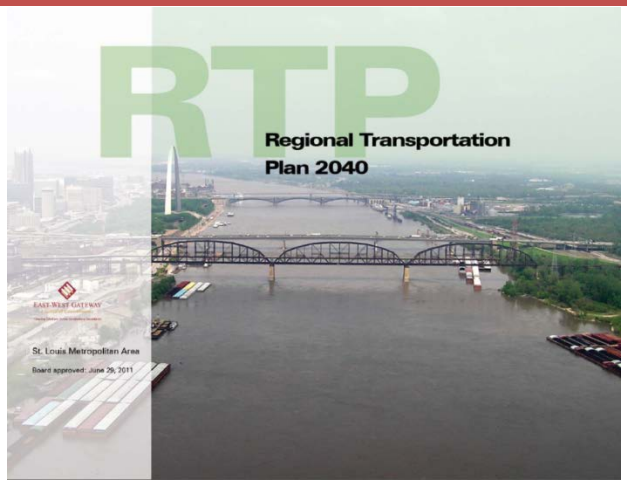
A list of the MPOs that received the highest scores for length in the initial review of LRTPs is included in **Table 2-1**. MPOs with the highest overall LRTP scores and lowest number of pages were selected for this analysis. Six LRTPs were selected, two from each population category (large, medium, and small). The two MPOs from the large "1,000,000 and Above" population category include: the East-West Gateway Council of Governments (EWGCOG) and the Houston-Galveston Area Council (H-GAC). The two MPOs in the medium "200,000 to 1,000,000" population category include: the Wilmington Area (Delaware/Maryland) Planning Council (WILMAPCO) and the Wilmington (North Carolina) Urban Area MPO (WMPO). The Cache MPO (CMPO) and the Dixie MPO (DMPO) were selected for the small "200,000 and Below" population category.

Table 2-1: MPOs Selected for Length Assessment

MPO	State	Major City	Area (Sq. Mi.)	Population 2000	Population 2010	LRTP Year
East-West Gateway Council of Governments	MO, IL	St. Louis	4,586	2,482,935	2,571,253	2040
Houston-Galveston Area Council	TX	Houston	8,466	4,669,571	5,892,002	2035
Wilmington Area Planning Council	DE, MD	Wilmington	795	586,216	639,457	2040
Wilmington Urban Area MPO	NC	Wilmington	405	182,479	241,842	2035
Cache MPO	UT	Logan	118	79,453	98,960	2035
Dixie MPO	UT	St. George	223	67,507	105,336	2040

Length

East-West Gateway Council of Governments



The East-West Gateway Council of Government's LRTP final report, *Regional Transportation Plan 2040* is 35 pages long and provides all of the information necessary for a long range transportation plan in a concise and easy to read format.

Inclusion of Essential Topics

The LRTP report is divided into five chapters, as illustrated in **Figure 2-2**, each of which provide necessary information in a succinct and easy to read format.

- **Chapter 1: The Framework**, provides a description of what is required of the MPO and how this report will provide this information. The ten principles of the report are summarized briefly to provide the reader some context for the report and to address each of the federally designated planning topics.
- **Chapter 2: Regional Challenges**, provides socio-economic information and statistics about the planning area including employment trends, population forecasts, accessibility of the population, energy and land use, and the financial outlook. Information on each of these topics is described sufficiently without providing an excessive amount of data.
- **Chapter 3: Future Strategies**, provides a bullet-point style presentation of the strategies developed to address each of the ten principles identified in Chapter 1.
- **Chapter 4: Transportation Investment Plan**, provides a summary of the projects contained within the LRTP and the current TIP by total cost and the responsible agency. The chapter also includes a valuable summary overview of the finances over the life of the LRTP for both of the state DOTs (Illinois and Missouri) and the local transit agency. This is followed by a financially constrained project listing by priority. Details for each project include the corridor, sponsor agency, description, county, location, and year of expenditure cost.
- **Chapter 5: Air Quality Conformity**, provides a summary of air quality regulations and what the future emissions will be as a result of the LRTP projects. The chapter directs the reader to other reports for more detailed information.

The LRTP is presented in a logical ordering of these five chapters without overburdening the reader.

Efficiency in Documentation

The report is structured using concise paragraphs, simple charts and graphics to relay important information to the reader without creating a wall of text. The Plan's narrative does not provide detailed information for the reader, but rather provides context for the charts and graphics.

In the 'Future Strategies' chapter, bullet-point strategies are provided for each of the Plan's ten previously defined principles. The brevity of the explanations for these strategies makes them easy to understand, while providing a meaningful explanation of what will be done to meet these principles.

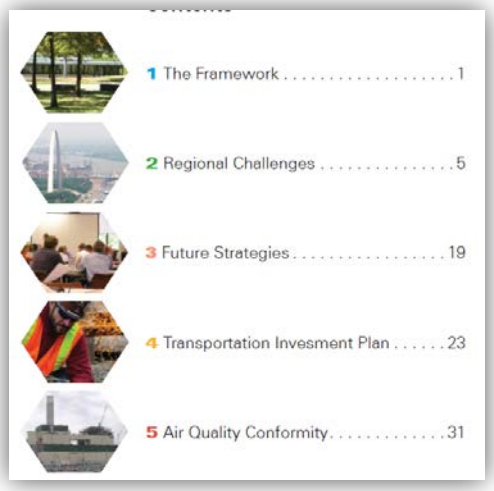


Figure 2-2: Section Division

Length

In the 'Transportation Investment Plan' chapter, a list of all of the projects in the LRTP is provided. Rather than providing long explanations of each planned project, each project is given a single line and only key information is provided to show suggested improvements and associated costs. Other typical items such as financial numbers, number of miles, or breakdown of funding sources are excluded, creating a more concise and easy way to read the list.

Use of Appendices

A separate document titled *The State of the System and Technical Supplement to RTP 2040* can be found on the MPO website directly below the *Regional Transportation Plan 2040*. This provides a central location for additional data which was removed from the main LRTP document to maintain brevity. This document is divided into the following five chapters:

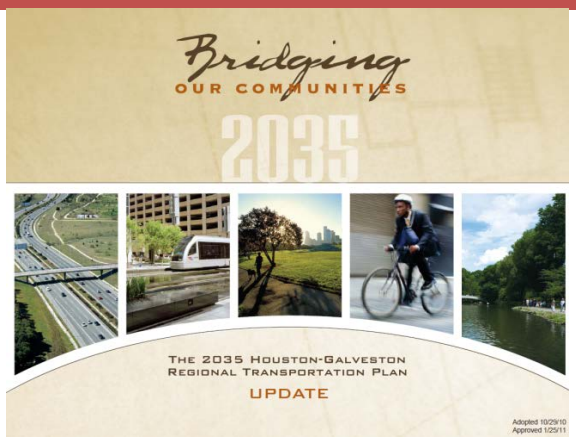
- **Chapter 1: Introduction**, includes detailed data on employment forecasts, population forecasts, and commuter flow. This chapter expounds on the data presented in Chapter 2 of the main LRTP document.
- **Chapter 2: State of the System,** includes detailed data on system reliability, mobility, accessibility, safety and security, and preservation.
- **Chapter 3: Housing and Transportation - An Index to Assess Affordability,** provides detailed information on the effects of rising transportation costs on households in the region.
- **Chapter 4: Land Use Evolution and Impact Assessment Model (LEAM),** provides detailed information about LEAM which is the land use development-forecasting model used for the RTP 2040 plan.
- **Chapter 5: Public Engagement Process,** provides detailed information about the methods used to engage the public in the planning processes used during the efforts to create the LRTP.

Lessons Learned

The East-West Gateway Council of Governments created a concise and informative LRTP report by splitting it into two separate documents. The main document provides all of the necessary information in a brief and easy to read format. For readers interested in greater detail on any portion of the plan, a *The State of the System and Technical Supplement to the Regional Transportation Plan 2040* is provided.

Length

Houston-Galveston Area Council



The Houston-Galveston Area Council's (H-GAC) LRTP, *Bridging Our Communities 2035*, is 66 pages, the second shortest LRTP of the 20 most populous MPOs in the country. H-GAC's LRTP creatively consolidates fourteen chapters into 66 pages while fully covering each planning topic and utilizing a series of appendices for more detailed information.

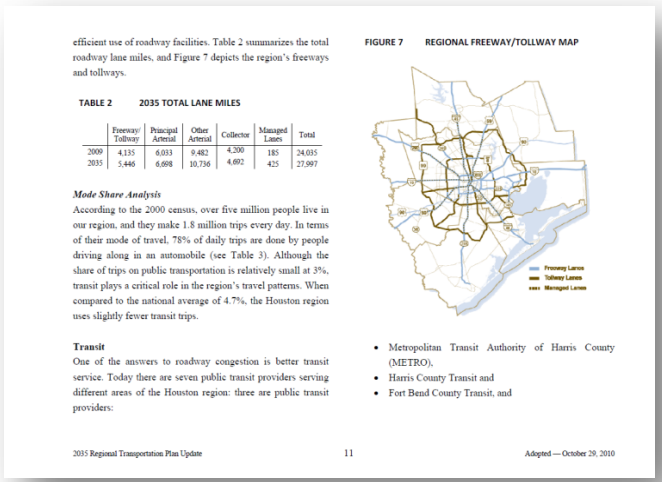
Inclusion of Essential Topics

The LRTP begins by providing an introduction to the 2035 update, including descriptions of study area characteristics, socioeconomic forecasts, specific planning processes, and goals, as well as a summary of LRTP scenario performance indicator estimations such as transit ridership, air quality conformity, transportation safety elements, vehicle miles traveled, and vehicle hours traveled. The plan then uses the next chapter to introduce and analyze four strategies to improve regional mobility and increase travel options. The H-GAC LRTP is an excellent example of providing an effective summary of the plan, performance measures, and strategies for implementation upfront, offering the reader a thorough review of the plan at first glance. The remaining sections of the LRTP cover regional freight, environmental justice, environmental analysis, climate change, public involvement, financial planning, preservation, maintenance and rehabilitation, project prioritization, development of the 2011-2014 TIP, and air quality conformity, with a final summary at the conclusion. The LRTP addresses federally required elements in its chapter titles to make this information easy for the reader to locate.

Efficiency of Documentation

The H-GAC's LRTP was selected for best practice analysis because it facilitates a comprehensive planning document using minimal text. The document is written using a large clear font that includes ample whitespace within its pages, as depicted in **Figure 2-3**, so information is not crammed onto the pages. Rather, each topic and subsequent pargraph is designed with the intent of provding a specific message that helps the reader move on to the next topic, avoiding unessential details.

The planned project lists are included as an appendix to the document to prevent an all-encompassing list from consuming space in the document's body. Bullets, tables, and numbering are used to relay lists of information rather than using full narrative text under many of the LRTP topics. Maps and pictures are also used throughout the text to illustrate concepts rather than describing them in paragraph form to expedite the articulation of the plan. One factor unique to the H-GAC LRTP is that the cost affordable and needs project lists are not included in the report body, they are included in an appendix.



efficient use of roadway facilities. Table 2 summarizes the total roadway lane miles, and Figure 7 depicts the region's freeways and tollways.

TABLE 2 2035 TOTAL LANE MILES

	Freeway/ Tollway	Principal Arterial	Other Arterial	Collector	Managed Lanes	Total
2009	4,135	6,033	9,482	4,200	185	24,035
2035	5,446	6,698	10,736	4,692	425	27,997

Mode Share Analysis

According to the 2000 census, over five million people live in our region, and they make 1.8 million trips every day. In terms of their mode of travel, 78% of daily trips are done by people driving along in an automobile (see Table 3). Although the share of trips on public transportation is relatively small at 3%, transit plays a critical role in the region's travel patterns. When compared to the national average of 4.7%, the Houston region uses slightly fewer transit trips.

Transit

One of the answers to roadway congestion is better transit service. Today there are seven public transit providers serving different areas of the Houston region: three are public transit providers:

FIGURE 7 REGIONAL FREEWAY/TOLLWAY MAP

- Metropolitan Transit Authority of Harris County (METRO),
- Harris County Transit and
- Fort Bend County Transit, and

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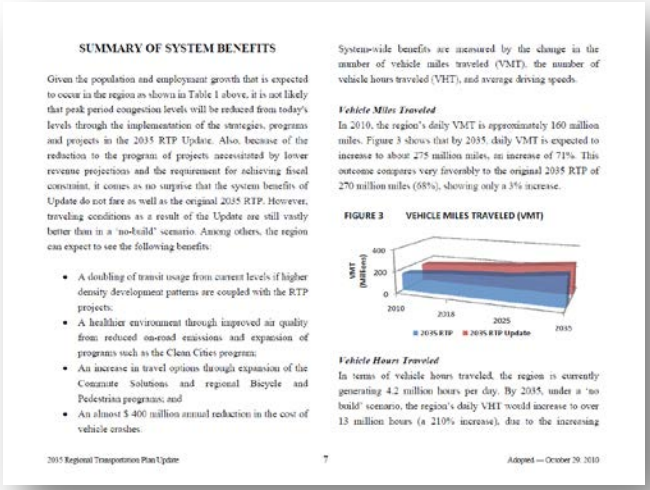

SUMMARY OF SYSTEM BENEFITS

Given the population and employment growth that is expected to occur in the region as shown in Table 1 above, it is not likely that peak period congestion levels will be reduced from today's levels through the implementation of the strategies, programs and projects in the 2035 RTP Update. Also, because of the reduction to the program of projects necessitated by lower revenue projections and the requirement for achieving fiscal constraint, it comes as no surprise that the system benefits of Update do not fare as well as the original 2035 RTP. However, traveling conditions as a result of the Update are still vastly better than in a 'no-build' scenario. Among others, the region can expect to see the following benefits:

- A doubling of transit usage from current levels if higher density development patterns are coupled with the RTP projects;
- A healthier environment through improved air quality from reduced on-road emissions and expansion of programs such as the Clean Cities program;
- An increase in travel options through expansion of the Commute Solutions and regional Bicycle and Pedestrian programs; and
- An almost $ 400 million annual reduction in the cost of vehicle crashes.

System-wide benefits are measured by the change in the number of vehicle miles traveled (VMT), the number of vehicle hours traveled (VHT), and average driving speeds.

Vehicle Miles Traveled

In 2010, the region's daily VMT is approximately 160 million miles. Figure 3 shows that by 2035, daily VMT is expected to increase to about 275 million miles, an increase of 71%. This outcome compares very favorably to the original 2035 RTP of 270 million miles (68%), showing only a 3% increase.

FIGURE 3 VEHICLE MILES TRAVELED (VMT)

Vehicle Hours Traveled

In terms of vehicle hours traveled, the region is currently generating 4.2 million hours per day. By 2035, under a 'no build' scenario, the region's daily VHT would increase to over 13 million hours (a 210% increase), due to the increasing

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Figure 2-3: Sample Pages from H-GAC LRTP

Length

Use of Appendices

The H-GAC LRTP includes six appendices that complement and expand upon issues featured in the main LRTP document. These appendices include:

- **Appendix A: envision+Houston Region (e+HR) Brochure**, a description of the public involvement program initiated during the LRTP process that involved the development of land use and transportation growth scenarios and public analysis of these alternatives.
- **Appendix B: Public Outreach**, a summary of the H-GAC public outreach program, including background information, dates, public comments, meeting notices, and survey results.
- **Appendix C: Pedestrian/Bike Regional Plan Summary**, a synopsis of existing bicycle and pedestrian conditions, goals and objectives for non-motorized transportation modes, progress since the 2007 adoption of the 2035 LRTP, and a list of implementation projects.
- **Appendix D: ARRA Update**, a rundown of the American Recovery and Reinvestment Act's implications on the plan including project funding status.
- **Appendix E: Project Listing**, a complete list of LRTP projects by fiscal year, status, sponsor, location, description, and cost.
- **Appendix F: Unfunded Transportation Improvements**, a complete list of projects that were removed from the plan in order to meet fiscal constraint by phase, project identification number, county, sponsor agency, location, description, and cost.

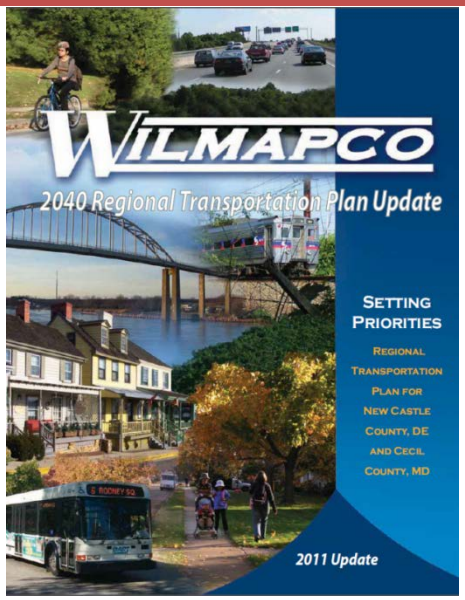
The public involvement section of the LRTP, for example, consists of only one paragraph of text. The paragraph references Appendix B within the document, which contains information on all aspects of the public involvement program in 60 additional pages, to provide all of the information that a reader may be interested in to further their knowledge on this subject.

Lessons Learned

H-GAC created an LRTP that emphasizes simplicity, while disseminating an appropriate amount of information both clearly and effectively. While the document conserves page length by excluding a list of planned projects from the main document, this information should be included to illustrate the specific plans through which overall changes will occur upfront. The document utilizes appendices to incorporate details where necessary, which helps to contain the document's length and appeal to the reader with an unintimidating, user-friendly report.

Length

Wilmington Area Planning Council (WILMAPCO)



In Delaware and Maryland, the Wilmington Area Planning Council's *2040 Regional Transportation Plan Update* is a great example of a concise long range transportation plan which efficiently provides all of the required information. The report is 29 pages long and includes thirteen appendices.

Inclusion of Essential Topics

The WILMAPCO LRTP is divided into six sections that logically present all relevant information in an easy to follow format. The included sections are as follows:

- **Section 1: Introduction**, includes a description of the Wilmington region in Delaware and Maryland, a brief description of the purpose of the plan, goals, and objectives. This first section also includes a short synopsis of the planning process.
- **Section 2: Regional Challenges**, provides an abbreviated description of key changes in the region over the time frame of the plan. This includes socio-demographic changes, economic changes, and changes in travel.
- **Section 3: Tracking Progress**, gives a summary of the Regional Progress Report and identifies which goals from the previous LRTP were accomplished. Three tables are provided in this section outlining how WILMAPCO has addressed each goal and objective from the previous LRTP.
- **Section 4: Financial Plan and Transportation Investments**, identifies all revenue assumptions and estimates for each county. Given these revenue estimates, a list of financially constrained projects is provided. For each project, the county; project name; expected dates for service commencement; cost in both 2010 and year of expenditure dollars; and specific details are provided.
- **Section 5: Air Quality Conformity**, identifies the impact of each project in the financially constrained plan on ozone and fine particulate matter since the WILMAPCO region is in non-attainment.
- **Section 6: New Initiatives**, identifies areas for new and future focus. Brief descriptions of each topic are included with additional information available from outside sources. These topics include livability, airports, high speed rail and other intermodal systems, climate change and rising sea levels, and non-motorized improvements.

Efficiency in Documentation

The WILMAPCO *2040 Regional Transportation Plan Update* uses short and to-the-point paragraph-length sections to efficiently provide information. Figures and tables are interspersed throughout the document to break up the text, while providing key information at a glance. For ease of reading, this plan uses two columns of text per page which reduces the "wall of text" feeling that other plans have. **Figure 2-4** provides sample pages from the plan.

Figure 2-4: Pages from WILMAPCO LRTP

Length

Use of Appendices

The WILMAPCO LRTP includes thirteen appendices which supply more detailed information as supporting documentation. These appendices are available in digital format on the WILMAPCO website and are listed as follows:

- Glossary,
- Aspiration Projects,
- Financial Analysis,
- Demographics,
- Air Quality Conformity,
- Public Opinion Survey, Comments, and Public Outreach,
- Federal Requirement Checklist,
- Freight Plan,
- Congestion Management Analysis,
- Transportation and Environmental Justice,
- Regional Progress Report,
- Summary of Municipal Comprehensive Plans, and
- Climate Change Integration Notes.

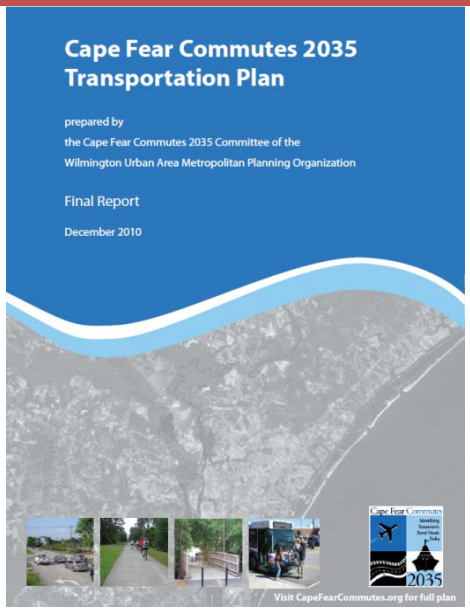
By including these reports in separate appendices, the length of the LRTP's main document can be shortened to include only the most salient information. Further information is available in the appendices. This makes the main portion of the document easier to read and digest while still providing all of the required information to the public.

Lessons Learned

The WILMAPCO Regional Transportation Plan provides a good example of identifying what information is most important to the reader and then providing that information in a short and easy to read format. Similar to other plans in this section, WILMAPCO has used concise language to efficiently provide all of the necessary information without reiterating information that is readily available in other MPO reports.

Length

Wilmington Urban Area MPO



In North Carolina, the Wilmington Urban Area Metropolitan Planning Organization's (WMPO) LRTP, *Cape Fear Commutes: 2035 Transportation Plan* is 27 pages long. The plan has a simple layout and covers all of the essential topics while still offering maps, graphics, along with an inclusive project list.

Inclusion of Essential Topics

The WMPO LRTP introduces a cohesive and well-integrated approach to presenting the information in the plan. The LRTP begins with a section entitled 'Plan Background' followed by a map and an explanation of the study area. Next, the plan requirements are discussed to highlight the information that is federally mandated. The sections that follow the introductory text include:

- **Public Involvement**, a synopsis of the LRTP Committee, the Community Survey, open houses, and the LRTP website.
- **Identifying Tomorrow's Needs Today**, a discussion of the growth and challenges within the metropolitan area.
- **The Plan's Vision**, a six-bullet list describing the WMPO's transportation vision.
- **Overview of Cape Fear Commutes 2035 Projects**, which covers aviation, bicycle facilities, freight, mass transportation improvements, pedestrian facilities, security, roadway improvements, congestion mitigation, roadway safety, quality of life, other regional priorities, and transportations systems and demand management.
- **Paying for the Plan**, a summary of the roadway, bicycle/pedestrian, and mass transportation revenues and costs as well as a list of the cost feasible plan and description of new funding sources.
- **Unfunded Projects**, an abstract on projects that are needed, yet are unfunded.
- **Cape Fear Commutes 2035** Project List.

Each of these chapters covers the necessary elements and provides specific information that can easily be understood by the reader. Maps are provided to bring awareness to spatial references, and images are provided in the text and margins for visualization. Despite its short length, the LRTP uses whitespace to its advantage, creating wide margins to avoid a cluttered layout.

Efficiency of Documentation

The WMPO's LRTP illustrates efficiency with its brevity in covering the plan's content. The dissemination of information is expedited by the LRTP's use of succinct paragraphs that communicate only information that is necessary. For example, in the 'Public Involvement' section, there is a paragraph regarding the LRTP website. The section reads,

> *"The WMPO's website devoted a page to Cape Fear Commutes 2035 Transportation Plan, allowing members of the public to stay abreast of the plan's development, access meeting agendas and minutes, view documents, and provide input. Visit CapeFearCommutes.org for more information."*

A large number of LRTPs include a breakdown of the LRTP website within the document. The WMPO could have included additional paragraphs regarding the content of the site, the developer of the site, and other elaborative details. Rather, this paragraph simply references the actual web address and suggests that the reader visit the webpage if they are interested in obtaining further information on the subject. The section provided exactly the information required and then provides additional resources if the reader so desires.

Length

Use of Appendices

One of the striking aspects of the WMPO's plan is its ability to cover its planning requirements in 27 pages. With such a brief report, it is clear that the document lacks the detailed intricacies of each individual stage in the LRTP planning process. The technical aspects and detailed elements of each project are not offered upfront; however, they are made available in a series of appendices that are clearly referenced throughout the document and also made easily accessible via the LRTP's website. The appendices include:

- **Appendix 1: Background**, a further description of the socioeconomic trends, projections, and constraints.
- **Appendix 2: Public Involvement**, the research that occurred prior to the development of the public involvement movement, goals and vision statement, the strategies applied in the outreach movement, use of internet and social media, the implementation of the community survey, planning of stakeholder interviews, outreach to low income and minority residents, establishment of a speakers bureau, maintenance of the LRTP website, creation of newsletters, development of a citizen advisory committee, and planning of transportation summits.
- **Appendix 3: Aviation**, a summary of the existing conditions and trends for aviation demand, funding sources for projects, project prioritization, and the details of recommended projects.
- **Appendix 4: Bicycle**, a summary of the existing conditions and trends for bicycle facility demand, funding sources for projects, project prioritization, and the details of recommended projects.
- **Appendix 5: Freight**, a summary of the existing conditions and trends for freight demand, funding sources for projects, project prioritization, and the details of recommended projects.
- **Appendix 6: Mass Transportation**, a summary of the existing conditions and trends for transit demand, funding sources for projects, project prioritization, and the details of recommended projects.
- **Appendix 7: Pedestrian**, a summary of the existing conditions and trends for pedestrian facility demand, funding sources for projects, project prioritization, and the details of recommended projects.
- **Appendix 8: Roadways**, a summary of the existing conditions and trends for roadway and facility demand, funding sources for projects, project prioritization, and the details of recommended projects.
- **Appendix 9: Transportation Demand Management**, an outline of recommended strategies to meet transportation travel demand both innovatively and effectively.
- **Appendix 10: Transportation Systems Management**, a discussion of recommended projects and policies that were considered in the Transportation System Management planning process.
- **Appendix 11: Environmental Analysis**, an in-depth analysis of the environmental impacts of the various policies and projects in the LRTP.

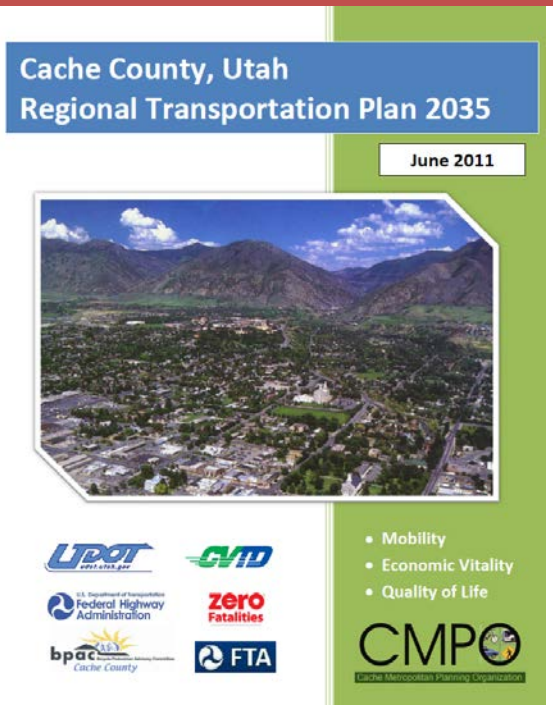
Each of the appendices expands on a topic discussed in the LRTP's main document, ensuring that the reader is able to obtain in-depth information for each step in the LRTP process if desired. By using the appendices for additional detail, data, maps, and analyses, the WMPO prevents the LRTP from becoming an overly exhaustive document.

Lessons Learned

The WMPO was highly successful in maintaining a user-friendly document with minimal pages for its final report while disseminating all necessary information in both a clear and supported fashion. The use of specific, concise paragraphs that provide references to other documents and graphics also aided in creating a direct and clear LRTP well-supported by a robust collection of appendices.

Length

Cache Metropolitan Planning Organization



The Cache Metropolitan Planning Organization's (CMPO) LRTP, *Regional Transportation Plan 2035* is composed of 47 pages and provides an excellent example of a compact plan that incorporates both detailed qualitative and quantitative information in the LRTP in less than fifty pages.

Inclusion of Essential Topics

The CMPO covers each major topic necessary in an LRTP in a total of six chapters. The chapters are organized as follows:

- **Chapter 1: Overview and Introduction**, including regional background information, transportation and land use facts, information on statewide plans, and details regarding its public involvement efforts.
- **Chapter 2: Goals and Objects**, stating the federal requirements, public input, and principles, goals and objectives specific to the 2035 LRTP.
- **Chapter 3: Needs Analysis**, providing a concise synopsis of regional needs that includes empirical data regarding increasing demand in specific highway, transit, non-motorized, freight and heavy rail corridors, as well as information regarding the maintenance of system safety and security.
- **Chapter 4: Envision Cache Valley**, including a brief description of the community workshops held in conjunction with the LRTP's planning effort to introduce growth scenarios to the public to create a regional vision plan.
- **Chapter 5: CMPO Transportation Vision Plans (2035 & Beyond)**, containing funding assumptions by source and mode leading to the 2035 fiscally constrained plans for highway, transit, and non-motorized modes detailed in both project listings and maps for visualization purposes. This chapter also goes further to include elements that will be incorporated beyond the 2035 horizon of the LRTP.
- **Chapter 6: Implementation Strategies**, covering plan refinement, the consideration of feasibility studies that will be undertaken for projects in the plan, local government coordination efforts, and performance measures used to determine the plan's ability to improve the transportation system.

These chapters appear in chronological order to effectively summarize the plan and cover each topic by condensing information to what is necessary for the reader's understanding while maintaining space for maps and graphics to visualize the Plan's elements.

Efficiency in Documentation

The fact that the chapters are well-developed in this LRTP contributes to its efficiency in documentation. The most notable feature of the CMPO plan is the document's use of short, definitive paragraphs that illustrate concepts with no "fluff" or excess detail. For example, the goals and objectives of the CMPO's LRTP are presented within one page, using only a sentence or two to clarify the importance of each element. The CMPO's statement of Goals and Objectives is presented in **Figure 2-5**.

In addition to these succinct paragraphs, the plan also makes use of lists and bullets where applicable to break up sentences and impart ideas clearly and efficiently. Also, the dense layout aids in minimizing document length. The CMPO's simple

framework and use of text to deliver facts with minimal detail allows the LRTP to "tell a story" of regional growth and reaction within this compact LRTP.

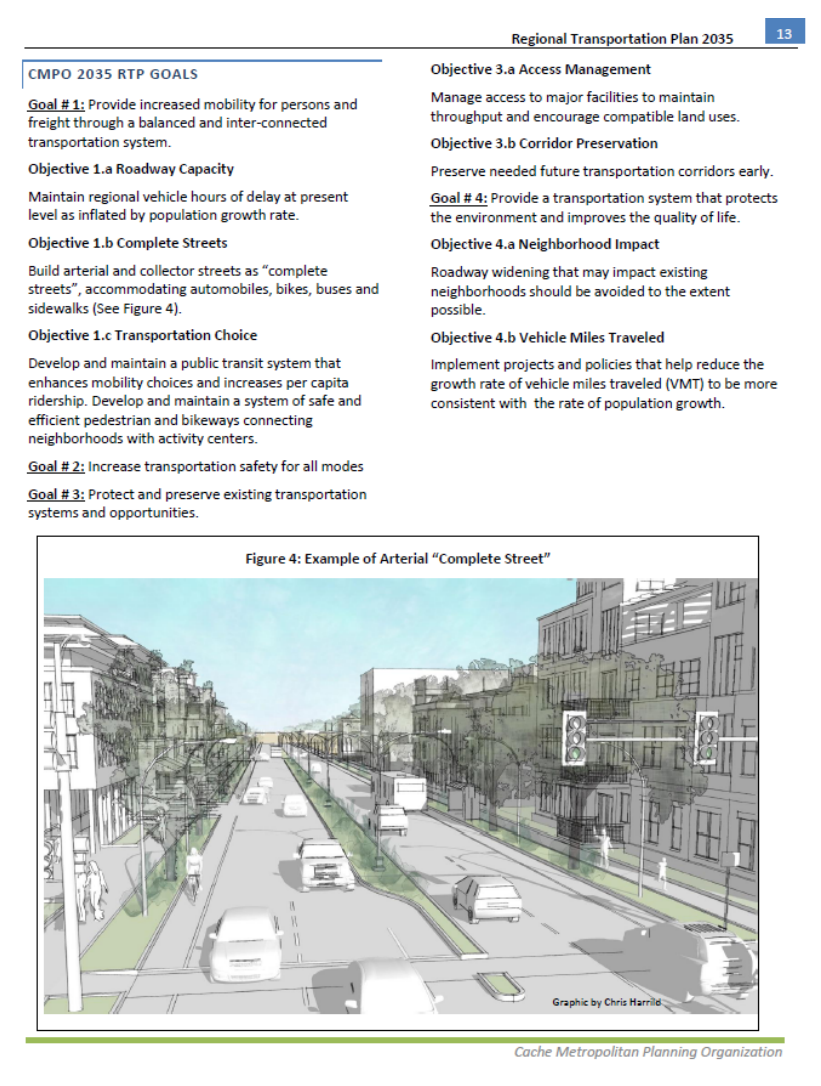
Use of Appendices

The CMPO's LRTP includes ten electronic appendices that are accessible via compact disc accompanying the LRTP as well as online. The appendices are comprised of reports that were created in conjunction with the LRTP effort, including:

- Air Quality 2035 RTP Conformity Analysis and Report;
- CMPO Coordinated Human Service Transit Plan;
- Cache Freight Inventory and Analysis Summary Report;
- Cache Transportation Safety Leadership Summit Proceedings;
- Socio-Economic Travel Demand Model Information;
- CVTD Short Range Transit Plan;
- Financial Assumptions Documentation;
- UPEL Environmental Analysis Project Reports;
- Envision Cache Valley Final Report; and
- COG Transportation Project Prioritization Process.

Rather than reiterating what is included in each of these documents within the LRTP itself, this information is made available to the reader straight from the source via the CD. Most of the appendices are referenced within the text and each expands on foundations within the LRTP document.

Figure 2-5: Succinct Statement of Goals and Objectives



Regional Transportation Plan 2035 13

CMPO 2035 RTP GOALS

Goal # 1: Provide increased mobility for persons and freight through a balanced and inter-connected transportation system.

Objective 1.a Roadway Capacity

Maintain regional vehicle hours of delay at present level as inflated by population growth rate.

Objective 1.b Complete Streets

Build arterial and collector streets as "complete streets", accommodating automobiles, bikes, buses and sidewalks (See Figure 4).

Objective 1.c Transportation Choice

Develop and maintain a public transit system that enhances mobility choices and increases per capita ridership. Develop and maintain a system of safe and efficient pedestrian and bikeways connecting neighborhoods with activity centers.

Goal # 2: Increase transportation safety for all modes

Goal # 3: Protect and preserve existing transportation systems and opportunities.

Objective 3.a Access Management

Manage access to major facilities to maintain throughput and encourage compatible land uses.

Objective 3.b Corridor Preservation

Preserve needed future transportation corridors early.

Goal # 4: Provide a transportation system that protects the environment and improves the quality of life.

Objective 4.a Neighborhood Impact

Roadway widening that may impact existing neighborhoods should be avoided to the extent possible.

Objective 4.b Vehicle Miles Traveled

Implement projects and policies that help reduce the growth rate of vehicle miles traveled (VMT) to be more consistent with the rate of population growth.

Figure 4: Example of Arterial "Complete Street"

Cache Metropolitan Planning Organization

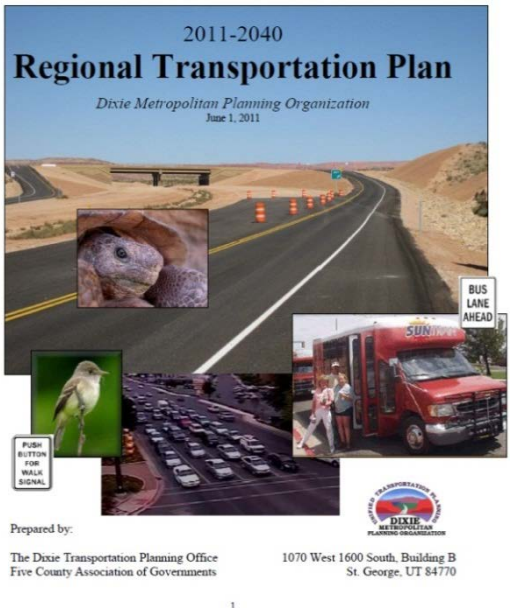
Lessons Learned

The CMPO's LRTP demonstrates the importance of providing topical material in a concise and chronological manner so critical information can be easily located and understood. Additionally, this particular LRTP is an impressive example in the application of concise, succinct writing that eliminates excess information in its text and refers to existing documentation and plans for additional information.

Length

Dixie Metropolitan Planning Organization

The Dixie MPO (DMPO) Regional Transportation Plan is 40 pages long and is an example of how a significant amount of information can be provided in a brief format.



Inclusion of Essential Topics

The Dixie MPO Regional Transportation Plan is divided into 14 chapters, each of which provides important information for the reader. The chapters are as follows:

- **Chapter 1: Executive Summary**, provides a very brief overview of the plan.
- **Chapter 2: Purpose and Need**, identifies the purpose of the LRTP and the eight requirements of the MPO as identified by SAFETEA-LU.
- **Chapter 3: Vision and Mission**, provides a summary of the "Vision Dixie" report and identifies the guiding principles of the Dixie region.
- **Chapter 4: Projected Transportation Demand**, provides an overview of the travel demand modeling process and history. This chapter also provides information on socioeconomic characteristics and employment.
- **Chapter 5: Financial Plan**, provides a brief summary of revenue sources, assumptions, and estimates.
- **Chapter 6: Existing and Proposed Transportation Facilities**, describes planned projects, the funding needs, and the funding assumptions. For each project, the route number, length, limits, work description, and cost are incorporated.
- **Chapter 7: Safety Management**, provides safety statistics, descriptions of major contributors to crashes, and a list of strategies to increase safety measures within the system.
- **Chapter 8: Security**, references and provides a brief summary of the Emergency Management Plan and a Regional Intelligent Transportation Systems (ITS) Architecture Plan.
- **Chapter 9: Congestion Management**, provides a comparison of network travel times between build and no-build scenarios in the year 2040.
- **Chapter 10: Corridor Preservation**, provides a list of priority corridors for preservation.
- **Chapter 11: Environmental Mitigation**, provides descriptions of possible impacts of the transportation system on the environment and identifies plans and policies designed to mitigate these impacts.
- **Chapter 12: Pedestrian/Bicycle Facilities**, provides a summary of the "Dixie Bicycle and Pedestrian Facilities, A Guide for Meeting the Needs of Bicyclists and Pedestrians." This report was created by the Dixie Bicycle and Pedestrian Committee.
- **Chapter 13: Transit Activities**, provides a summary of current and projected ridership figures. This section also references two transit study reports on the possibility of bus rapid transit.
- **Chapter 14: Public Involvement**, identifies public involvement practices of the Dixie MPO. This section also includes a selection of comments from the public involvement portion of the plan with DMPO responses provided.

Efficiency in Documentation

The fine level at which the document is divided (14 chapters) facilitates ease of searching for specific topics. Each chapter is short and to the point, while still providing the necessary information. For example, the pages shown in **Figure 2-6** show the statement of the topic and the brief paragraph provided to explain the content without excess detail. For these reasons, the plan document is both useful and user-friendly.

Length

Use of Appendices

The Dixie MPO's Regional Transportation Plan contains two appendices and a map section provided at the end of the report. These appendices are described below:

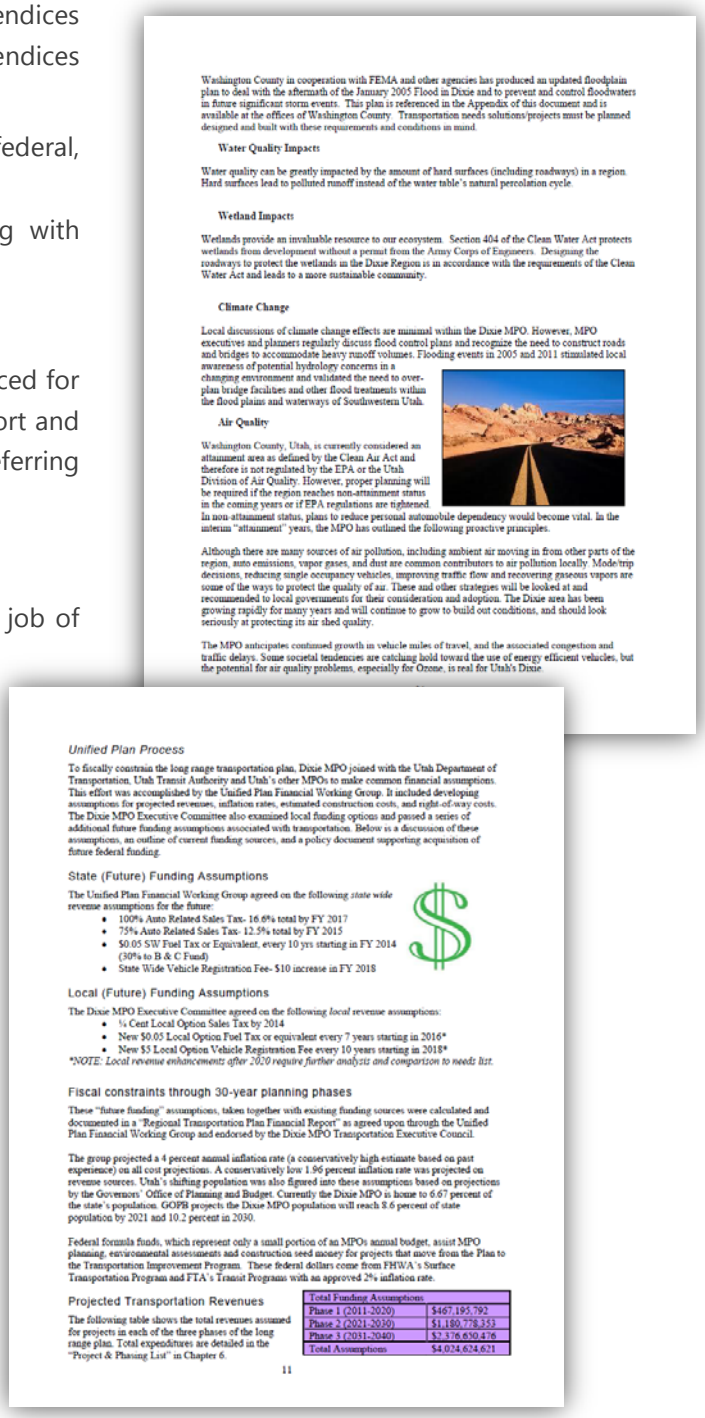
- **Appendix A: Potential Funding Sources**, including federal, state, and local sources, and private sources.
- **Appendix B: Typical Source of NOx and VOC**, along with references to air quality programs and regulations.
- **Maps**

In addition to the included appendices, several reports are referenced for additional information. The Dixie MPO manages to maintain a short and concise document by identifying key results from these reports—referring readers to these reports for additional information.

Lessons Learned

The Dixie MPO's Regional Transportation Plan does an exemplary job of providing the necessary information to the reader while keeping the report short and easy to read. By referencing previous reports, the LRTP is not bogged down with details and information available elsewhere. This makes for a more readable LRTP.

Figure 2-6: Brief Information for a Variety of Topics



Washington County in cooperation with FEMA and other agencies has produced an updated floodplain plan to deal with the aftermath of the January 2005 Flood in Dixie and to prevent and control floodwaters in future significant storm events. This plan is referenced in the Appendix of this document and is available at the offices of Washington County. Transportation needs solutions/projects must be planned designed and built with these requirements and conditions in mind.

Water Quality Impacts

Water quality can be greatly impacted by the amount of hard surfaces (including roadways) in a region. Hard surfaces lead to polluted runoff instead of the water table's natural percolation cycle.

Wetland Impacts

Wetlands provide an invaluable resource to our ecosystem. Section 404 of the Clean Water Act protects wetlands from development without a permit from the Army Corps of Engineers. Designing the roadways to protect the wetlands in the Dixie Region is in accordance with the requirements of the Clean Water Act and leads to a more sustainable community.

Climate Change

Local discussions of climate change effects are minimal within the Dixie MPO. However, MPO executives and planners regularly discuss flood control plans and recognize the need to construct roads and bridges to accommodate heavy runoff volumes. Flooding events in 2005 and 2011 stimulated local awareness of potential hydrology concerns in a changing environment and validated the need to over-plan bridge facilities and other flood treatments within the flood plains and waterways of Southwestern Utah.

Air Quality

Washington County, Utah, is currently considered an attainment area as defined by the Clean Air Act and therefore is not regulated by the EPA or the Utah Division of Air Quality. However, proper planning will be required if the region reaches non-attainment status in the coming years or if EPA regulations are tightened. In non-attainment status, plans to reduce personal automobile dependency would become vital. In the interim "attainment" years, the MPO has outlined the following proactive principles.

Although there are many sources of air pollution, including ambient air moving in from other parts of the region, auto emissions, vapor gases, and dust are common contributors to air pollution locally. Mode/trip decisions, reducing single occupancy vehicles, improving traffic flow and recovering gaseous vapors are some of the ways to protect the quality of air. These and other strategies will be looked at and recommended to local governments for their consideration and adoption. The Dixie area has been growing rapidly for many years and will continue to grow to build out conditions, and should look seriously at protecting its air shed quality.

The MPO anticipates continued growth in vehicle miles of travel, and the associated congestion and traffic delays. Some societal tendencies are catching hold toward the use of energy efficient vehicles, but the potential for air quality problems, especially for Ozone, is real for Utah's Dixie.

Unified Plan Process

To fiscally constrain the long range transportation plan, Dixie MPO joined with the Utah Department of Transportation, Utah Transit Authority and Utah's other MPOs to make common financial assumptions. This effort was accomplished by the Unified Plan Financial Working Group. It included developing assumptions for projected revenues, inflation rates, estimated construction costs, and right-of-way costs. The Dixie MPO Executive Committee also examined local funding options and passed a series of additional future funding assumptions associated with transportation. Below is a discussion of these assumptions, an outline of current funding sources, and a policy document supporting acquisition of future federal funding.

State (Future) Funding Assumptions

The Unified Plan Financial Working Group agreed on the following *state wide* revenue assumptions for the future:

- 100% Auto Related Sales Tax- 16.6% total by FY 2017
- 75% Auto Related Sales Tax- 12.5% total by FY 2015
- $0.05 SW Fuel Tax or Equivalent, every 10 yrs starting in FY 2014 (30% to B & C Fund)
- State Wide Vehicle Registration Fee- $10 increase in FY 2018

Local (Future) Funding Assumptions

The Dixie MPO Executive Committee agreed on the following *local* revenue assumptions:

- ¼ Cent Local Option Sales Tax by 2014
- New $0.05 Local Option Fuel Tax or equivalent every 7 years starting in 2016*
- New $5 Local Option Vehicle Registration Fee every 10 years starting in 2018*

**NOTE: Local revenue enhancements after 2020 require further analysis and comparison to needs list.*

Fiscal constraints through 30-year planning phases

These "future funding" assumptions, taken together with existing funding sources were calculated and documented in a "Regional Transportation Plan Financial Report" as agreed upon through the Unified Plan Financial Working Group and endorsed by the Dixie MPO Transportation Executive Council.

The group projected a 4 percent annual inflation rate (a conservatively high estimate based on past experience) on all cost projections. A conservatively low 1.96 percent inflation rate was projected on revenue sources. Utah's shifting population was also figured into these assumptions based on projections by the Governors' Office of Planning and Budget. Currently the Dixie MPO is home to 6.67 percent of the state's population. GOPB projects the Dixie MPO population will reach 8.6 percent of state population by 2021 and 10.2 percent in 2030.

Federal formula funds, which represent only a small portion of an MPOs annual budget, assist MPO planning, environmental assessments and construction seed money for projects that move from the Plan to the Transportation Improvement Program. These federal dollars come from FHWA's Surface Transportation Program and FTA's Transit Programs with an approved 2% inflation rate.

Projected Transportation Revenues

The following table shows the total revenues assumed for projects in each of the three phases of the long range plan. Total expenditures are detailed in the "Project & Phasing List" in Chapter 6.

Total Funding Assumptions	
Phase 1 (2011-2020)	$467,195,792
Phase 2 (2021-2030)	$1,180,778,353
Phase 3 (2031-2040)	$2,376,630,476
Total Assumptions	$4,024,604,621

11

Clarity

Introduction to Clarity Assessment

The clarity of the LRTP assessment is the element most related to the content of the LRTP's narrative. It is imperative that each plan, as a mass distributed document, conveys its ideas in both an organized and concise manner that can be easily understood by the public.

Measures of Evaluation

Clarity is not limited to the specific language and terminology used in the LRTP. Factors like the progression of planning issues within the document and the way in which information is presented plays an important role in the ability of the reader to properly interpret the plan. As a means to assess an LRTP's clarity, the following three measures were used:

- Nature of Language
- Succession of Topics
- Communication of Plan Elements

The Nature of Language is an overall assessment of the verbiage used throughout the document. According to the 2003 National Assessment of Adult Literacy, about 34 percent of adults over age 16 fall within or below basic document literacy levels. In order to function as a user-friendly document for the general public, the narrative text of an LRTP must be accommodating to a variety of audiences, including lower reading levels. The use of highly technical terms should be avoided in order to make the text appeal to a mass audience. Additionally, explanations, definitions, and other text or graphics should be included in areas where further explanation is required to illustrate concepts with which a common audience will not be familiar.

Succession of Topics is critical in the assessment of clarity, as the general layout of ideas can lead readers to a better understanding of the plan. Chapters should occur sequentially to allow the reader to see how each step of the planning process builds upon the preceding step, culminating in the adoption of the final plan. The table of contents in each LRTP was reviewed to observe document layout from a glance, and then the chapters were reviewed in detail to assess how the document was structured to provide information.

Communication of Plan Elements builds on the Succession of Topics by evaluating each chapter's ability to comprehensively and effectively present planning steps and concepts. This evaluation takes the LRTP's main substance into consideration, determining the ability to clearly and concisely illustrate to the general public the "how's" and "why's" of the long range planning process.

LRTPs Selected

A list of the MPOs that received the highest scores for clarity in the initial review of national LRTPs is included in **Table 3-1**. Six LRTPs were selected, two from each population category (large, medium, and small). The two MPOs from the "1,000,000 and Above" category include: the New York Metropolitan Transportation Council (NYMTC) and the Metropolitan Transportation Commission (MTC). The two MPOs in the medium "200,000 to 1,000,000" population category include: the Council of Fresno County Governments (Fresno COG) and the Durham-Chapel Hill Carrboro MPO. The Ulster County Transportation Council (UCTC) and the Gainesville-Hall MPO (GHMPO) were selected for the small "200,000 and Below" population category.

Clarity

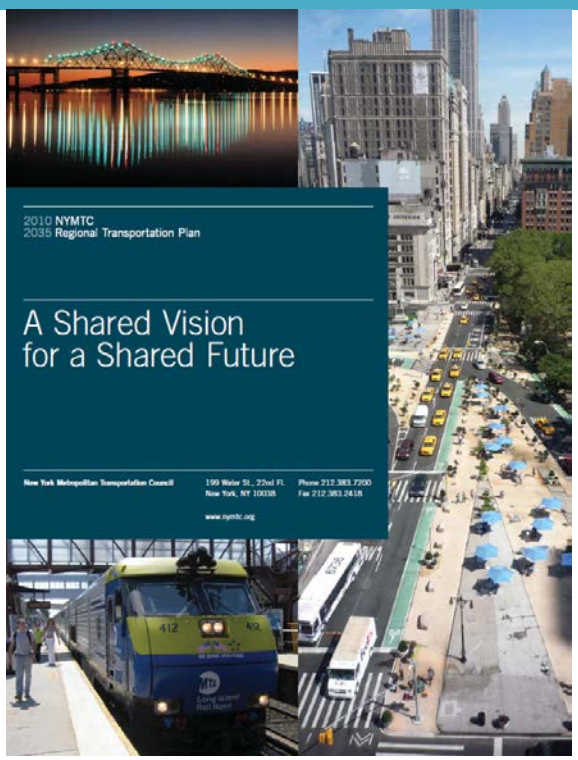
Table 3-1: MPOs Selected for Clarity Assessment

MPO	State	Major City	Area (Sq. Mi.)	Population 2000	Population 2010	LRTP Year
New York Metropolitan Transportation Council	NY	New York	2,726	12,068,148	12,367,508	2035
Metropolitan Transportation Commission	CA	Oakland	7,485	6,783,760	7,150,828	2035
Council of Fresno County Governments	CA	Fresno	6,016	799,407	930,885	2035
Durham-Chapel Hill-Carrboro MPO	NC	Durham	515	329,255	392,791	2035
Ulster County Transportation Council	NY	Kingston	1,159	177,749	182,491	2035
Gainesville-Hall MPO	GA	Gainesville	429	139,277	179,642	2040

Clarity

New York Metropolitan Transportation Council

The New York Metropolitan Transportation Council (NYMTC) provides a clear and well-organized LRTP for its regional transportation system. The report is an excellent example of an engaging and informative presentation of an LRTP.



Nature of the Language

The NYMTC's LRTP provides a substantial amount of background information in its opening sections regarding visions and trends. The document provides information on individual elements of the transportation system, why they are relevant, and which strategies will be proposed to improve them through the implementation of the LRTP. This background text provides an explanation of factors like megaregions, green transportation initiatives, transit-oriented development, context sensitive solutions, parking management, bus rapid transit, complete streets, the marine highways initiative, travel forecasting modeling strategies, and performance measures. This information contributes additional length to the document and could be provided in a series of appendices. Nevertheless, it is integral that this information is accessible by the reader. The NYMTC also does an excellent job of describing individual projects in the list of improvements and actions as well as a providing a discussion of funding and innovative finance strategies.

While the plan is written at a somewhat elevated reading level, the document incorporates graphics that explain processes and concepts related to the LRTP, as depicted in examples in **Figure 3-1** and **Figure 3-2**. The document capitalizes on the use of diagrammatic and bulleted descriptions of information to help increase the clarity of the plan.

plaNYC 2030 Initiatives Related to NYMTC RTP

Transportation

1. Increase capacity on key congested routes.
2. Provide new commuter rail access to Manhattan.
3. Expand transit access to underserved areas.
4. Improve and expand bus service.
5. Improve local commuter rail service.
6. Improve access to existing transit.
7. Address congested areas around the city.
8. Expand ferry service.
9. Promote cycling.
10. Pilot congestion pricing.
11. Manage roads more efficiently.
12. Strengthen enforcement of traffic violations.
13. Facilitate freight movements.
14. Close the MTA state-of-good-repair funding gap.
15. Close the city's road and bridge state of good repair funding gap.
16. Establish a new regional transit financing authority.

Housing

1. Pursue transit-oriented development.
2. Reclaim underutilized waterfronts.
3. Increase transit options to spur development.
4. Expand co-locations with government agencies.
5. Adapt outdated building to new uses.
6. Develop underutilized areas to knit neighborhoods together.
7. Capture the potential of transportation infrastructure investments.
8. Deck over rail yards, rail lines, and highways.
9. Develop new financing strategies.
10. Expand inclusionary zoning.
11. Encourage home ownership.
12. Preserve the existing stock of affordable housing.

Air Quality

1. Capture the air quality benefits of PlaNYC transportation plan objectives.
2. Improve fuel efficiency of private cars.
3. Reduce emissions from taxis, black cars, and for-hire vehicles.
4. Replace, retrofit and refuel diesel trucks.
5. Decrease school bus emissions.
6. Retrofit ferries and mandate the use of cleaner fuels.
7. Partner with the Port Authority to reduce emissions from port facilities.
8. Implement more efficient construction management practices.
9. Capture the air quality benefits of PlaNYC energy strategy.
10. Promote the use of cleaner burning heating fuels.
11. Capture the benefits of PlaNYC open spac plan.
12. Reforest targeted areas of our parkland.
13. Increase tree plantings on lots.
14. Launch collaborative local air quality study

Open Space

1. Open schoolyards across the city as public playgrounds.
2. Increase options for competitive athletes.
3. Complete underdeveloped destination parks
4. Provide more multi-purpose fields.
5. Install new lighting.
6. Create a public plaza in every community.
7. Green our underutilized street and sidewalk space.

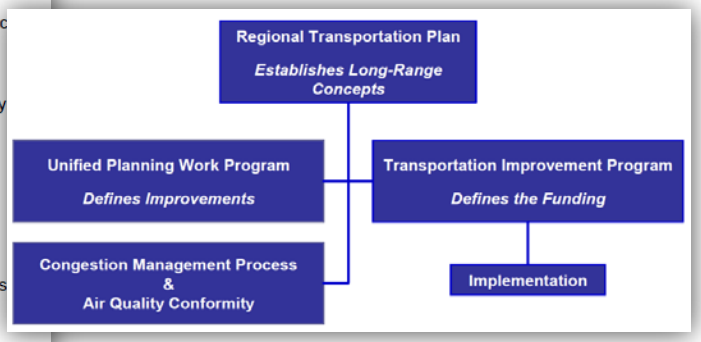


Figure 3-1: Use of Text Boxes and Diagrams to Induce Clarity

Figure 3-2: Incorporation of Summary Information

Goal: Enhance the regional environment

NYMTC is committed to selecting transportation projects and programs and encouraging land use policies that, in the aggregate, continuously reduce the negative impacts of transportation on the natural environment and human health.

NYMTC will continue to work in a collaborative fashion to achieve these outcomes:

- Improved air quality;
- Reduced greenhouse gas emissions;
- Improved water quality; and
- Preservation of open space, especially wetlands.

RELATED OVERARCHING ISSUES

- ✓ Economic Innovation and Technological Change
- ✓ Globalization and Security
- ✓ Lifestyle and Workforce Change
- ✓ Energy and Climate Change
- Transportation Finance

Goal: Improve the regional economy

NYMTC's members must continue to maintain and develop the regional transportation infrastructure to support the vitality, competitiveness, and sustainable growth of the entire regional economy, which, in turn, generates tax revenues and jobs.

The goal of sustainable economic growth will produce, and be supported by, these outcomes:

- A strengthened position of the region as a global and national gateway;
- Strategic distribution of growth throughout the region; and
- Improved regional mobility for people and goods.

RELATED OVERARCHING ISSUES

- ✓ Economic Innovation and Technological Change
- ✓ Globalization and Security
- ✓ Lifestyle and Workforce Change
- ✓ Energy and Climate Change
- Transportation Finance

Succession of Topics

The LRTP incorporates a minimalistic division of chapters that are sequenced intuitively with regard to the LRTP planning process. The first chapter, 'A Shared Vision,' sets the stage for the plan by communicating the components of the regional vision and an overview of the LRTP development process, including goals, guidelines, and concepts for implementation. Next, the plan discusses 'A Shared Future' which describes future growth patterns and forecast development. Next 'Key Trends' further explores the implications that these projected growth patterns will have on travel demand within the region and identifies issues anticipated as a result of the estimated growth.

Chapter 4, 'The Transportation System,' portrays the region's existing transportation infrastructure conditions including all public transportation services, bicycle and pedestrian facilities, roadways, air and sea ports, and freight services. After each aspect of the current system is summarized, the LRTP introduces Chapter 5, 'Transportation System Operations and Management,' which describes the planned improvement projects for the next 25 years that will expand on existing operations and management services. This chapter introduced major LRTP issues including infrastructure replacement, congestion management, transportation demand management/transportation system management, and safety and security. Chapter 6, 'System Improvements and Actions,' furthers the improvements of 'Transportation System Operations and Management' by discussing investment options and major studies for roadways, non-motorized transit, freight, and special needs.

After each project is listed in Chapter 6, Chapter 7, 'Financing the Plan' compares the needs and resources required for operations and management to develop estimates of available funding sources. This assessment balances needs and available resources to arrive at a financially feasible plan. Finally, Chapter 8, 'Implementing the Plan,' summarizes a plan for implementation through regional coordination; taking into consideration Clean Air Act conformity, the congestion management process, and public involvement.

In these lengthy but detailed and well-sequenced sections, the NYMTC report succeeds in encompassing each stage of the LRTP planning process in a consecutive manner. The plan is a good example of how to artfully explain each step from the plan's origins all the way through to the conclusions of the plan.

Communication of Plan Elements

The NYMTC's LRTP is a good example of how to provide a thorough analysis of the goals, existing conditions, future forecasts, and infrastructure and service needs, all while assessing the demands and resources to develop a financially constrained implementation plan. The explanatory narrative of the LRTP couples intuitively with the ordered sections, leading to a plan that is effectively communicated explaining the "who, what, where, why, and how" for the entire region.

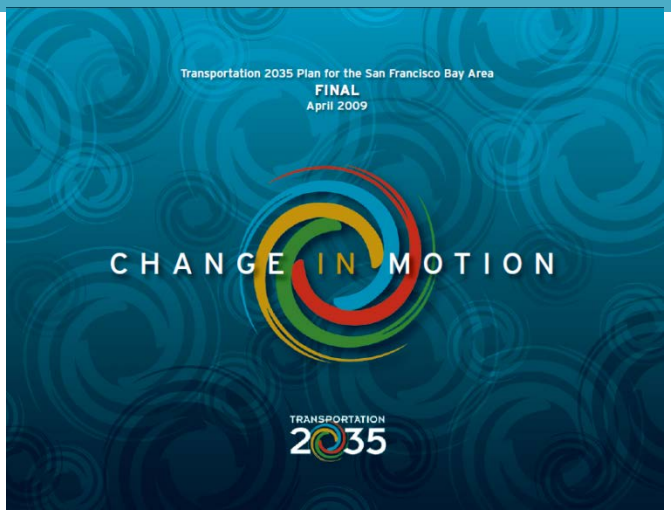
Lessons Learned

The LRTP's narrative helps to tell a story, beginning with a vision that frames the plan's intent, followed by a discussion of growth, travel trends and needs. Once these needs are identified, the plan lays out the steps that the NYMTC intends to follow to address the effects of its projected growth in order to achieve the regional vision. The NYMTC's plan should be commended for integrating the LRTP process into a transparent framework that is easy for readers to follow. The NYMTC provides a significant amount of information within the LRTP report. Regardless of its length, the NYMTC plan should be applauded for producing a report that speaks well to the public while simultaneously detailing the region's planning process.

Clarity

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) LRTP, *Change in Motion*, provides a notable example of a clear and comprehensive document that speaks to the appropriate audience and conveys the desired message of a regional transportation plan.



Nature of Language

The MTC's LRTP utilizes a slightly higher level of reading than would be preferred for an LRTP. To compensate for its higher level language, the LRTP includes several graphics, text boxes, and verbiage that help explain policies, concepts, and otherwise more complex terminology. For example, **Figure 3-3** contains excerpt images from the document illuminating the concept of express lanes, a breakdown of statewide legislative policies, and a guide to understanding ramp metering systems.

Figure 3-3: Examples of Supportive Text

These sections and images help to make the document more user-friendly by providing explanations that enhance the readers' knowledge. Additionally, the MTC's LRTP contains a variety of quotations and side-bar panel text that also provides explanatory information to the reader that coincides with the document's narrative text.

Clarity

Succession of Topics

The MTC's LRTP is divided into five chapters that summarize the plan's development and subsequent project selection. The LRTP's user-friendliness is accentuated by its simplicity by minimizing the number of chapters and using clear document divisions, which include:

- A Call for Change
- Chapter 1: Overview - Change in Motion
- Chapter 2: Trends and Performance
- Chapter 3: Finances
- Chapter 4: Investments
- Chapter 5: Building Momentum for Change

'A Call for Change' is an introductory chapter that introduces the document and highlights the plan's titles and overarching theme: 'Change in Motion.' The next three chapters are self-explanatory in their titles. 'Chapter Four: Investments' provides the bulk of the document, including several subdivisions. These sub-topics include transportation system maintenance, environmental protection, technological resource optimization, development of equitable transportation options, focused growth, and consideration for future generations. 'Chapter 5: Building Momentum for Change' includes a brief discussion designed to reiterate the significance of change and the weight of the public's role in the transformation process to create a more economically, environmentally, and equitably sustainable transportation system.

The progression from introductory language to background information and performance indicators to available finances and subsequent investments is an intuitive design template for an LRTP. The organization of chapters using this outline allows the reader to clearly follow the planning process from needs to resources to projects, while reaffirming the significance of citizen involvement and education.

Communication of Plan Elements

An exceptional aspect of the MTC's plan is its ability to clearly communicate the intentions of the plan and the importance of addressing the region's changing socioeconomic and political climates. For example, the LRTP takes the additional step in a section titled, 'Putting the Plan to the Test.' Here the MTC evaluates how the plan addresses specific planning elements including: reducing congestion, local roadway investment, infrastructure aging, particulate emissions, carbon dioxide emissions, and reduction of vehicle miles traveled. Each discussion consists of a few brief paragraphs but continues to illustrate how the goal's visions are addressed for each performance measure. This section explains the implications of the plan in a manner that is easily understood by the public.

The financial section provides a detailed discussion of revenue and expenditures by both mode and function, which speaks to the ability of the plan to address concerns of the economy, environment, and equity. Assessment of project investments are provided in a series of tables, charts, and well-designed paragraphs to further deepen the reader's understanding, as well.

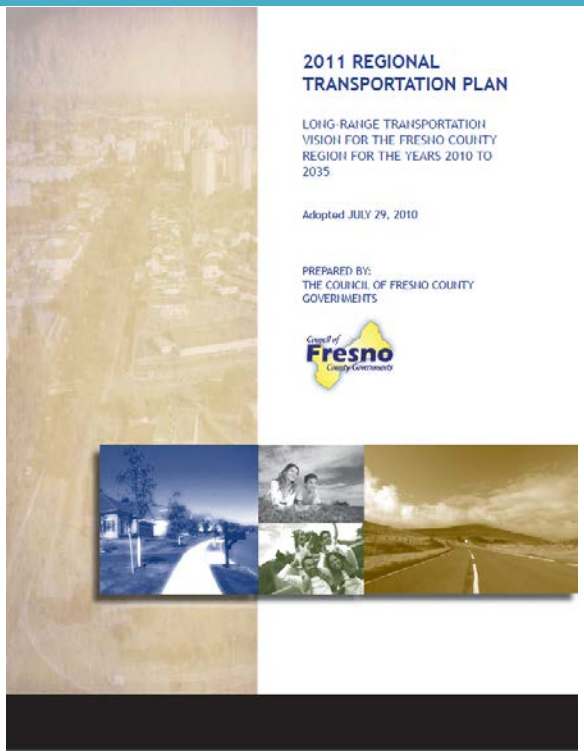
Lessons Learned

While this particular document is written at a higher reading level, the method in which the text was developed incorporates ample explanations to educate the reader to enhance its user-friendliness. The succession of topics allows the document to read smoothly and helps the reader to clearly understand the path through which the MPO arrived at its selected transportation improvement projects. The contents within the sections also speak effectively to both the federally mandated requirements for LRTPs and the 'Transportation 2035 Vision Statement' provided at the beginning of the MTC's plan.

Clarity

Council of Fresno County Governments

The Council of Fresno County Governments (COFCG) LRTP, titled *2011 Regional Transportation Plan*, provides an example of an LRTP which provides a robust description of the region's long range transportation plan in a clear and easy-to-read format. The LRTP employs a logical progression of topics along with the incorporation of charts and tables.



Nature of the Language

The COFCG's LRTP makes good use of tables, figures, and bulleted text to supplement complex terminology. The use of graphics and presentation tools yields a balance between writing for a technical audience and the general public. **Figure 3-4** provides a noteworthy example of a flow chart used to explain the complex process in which transportation funding arrives at the local level.

Figure 3-5 illustrates bulleted text in the document to break down complex text making it easier to understand and digest, rather than providing the information in a "wall of text" paragraph form

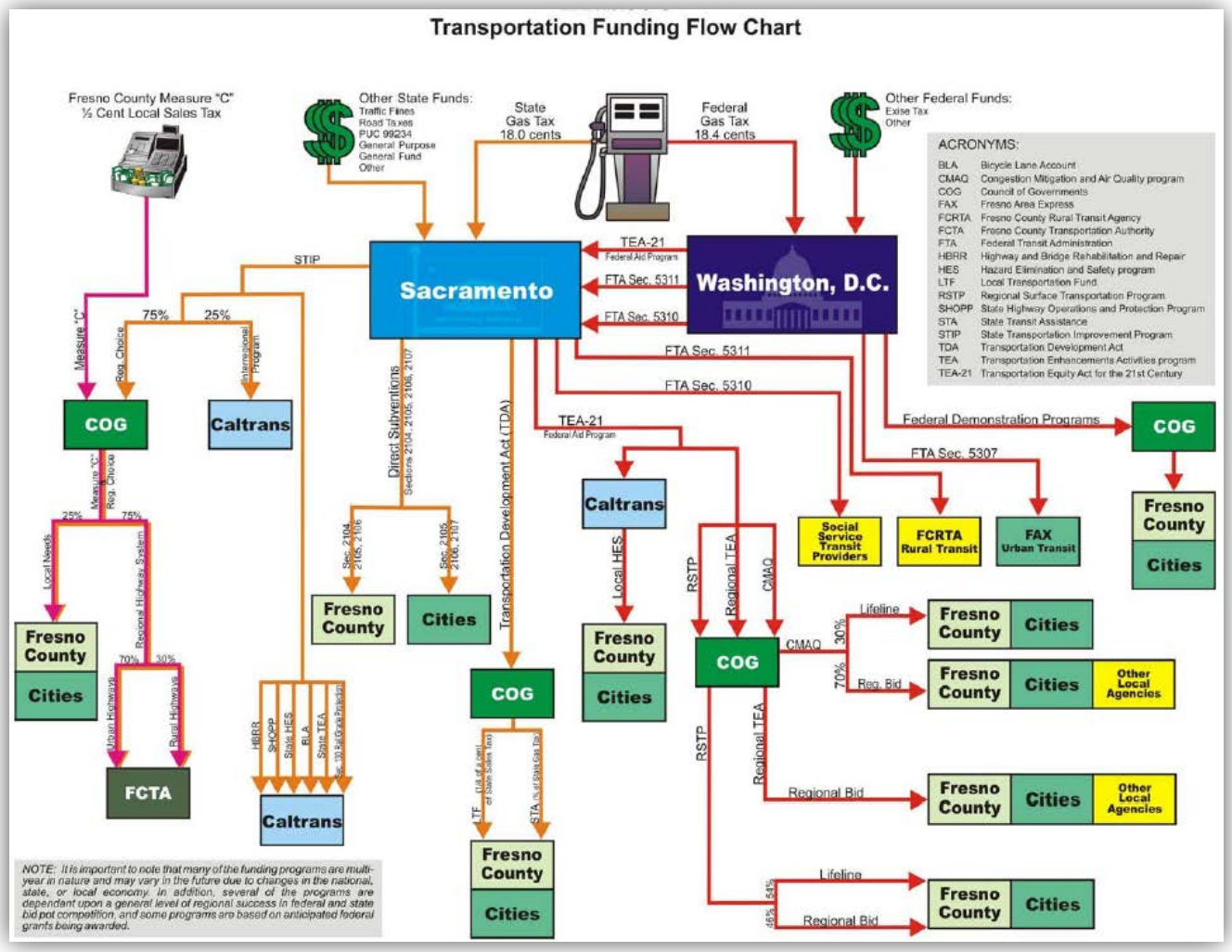


Figure 3-4: Use of Flow Chart to Describe Complex Process

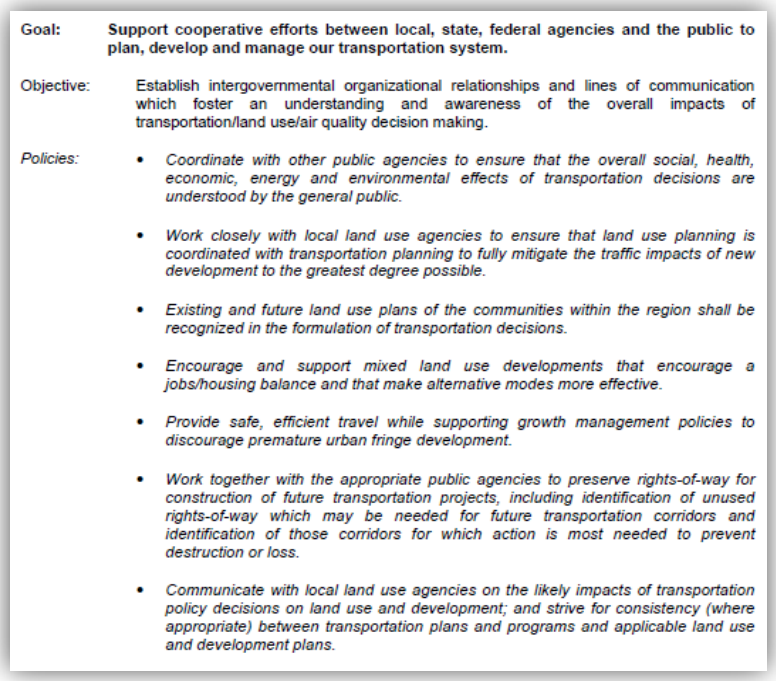
Clarity

Succession of Topics

The COFCG's LRTP is divided into seven distinct chapters, each of which is subdivided into appropriate sections beginning with an introduction. In this way, each chapter can be viewed as a standalone document. Each of these chapters is provided as a separate digital file to download from the MPO's website.

- Chapter 1: San Joaquin Valley Regional Transportation Overview
- Chapter 2: Regional Setting, State, & Federal Issues
- Chapter 3: Policy Element
- Chapter 4: Needs Assessment & Action Element
- Chapter 5: Climate Change Element
- Chapter 6: Financial Element
- Chapter 7: Public Participation

Figure 3-5: Use of Bulleted Text to Describe Complex Process



Goal: **Support cooperative efforts between local, state, federal agencies and the public to plan, develop and manage our transportation system.**

Objective: Establish intergovernmental organizational relationships and lines of communication which foster an understanding and awareness of the overall impacts of transportation/land use/air quality decision making.

Policies:

- *Coordinate with other public agencies to ensure that the overall social, health, economic, energy and environmental effects of transportation decisions are understood by the general public.*
- *Work closely with local land use agencies to ensure that land use planning is coordinated with transportation planning to fully mitigate the traffic impacts of new development to the greatest degree possible.*
- *Existing and future land use plans of the communities within the region shall be recognized in the formulation of transportation decisions.*
- *Encourage and support mixed land use developments that encourage a jobs/housing balance and that make alternative modes more effective.*
- *Provide safe, efficient travel while supporting growth management policies to discourage premature urban fringe development.*
- *Work together with the appropriate public agencies to preserve rights-of-way for construction of future transportation projects, including identification of unused rights-of-way which may be needed for future transportation corridors and identification of those corridors for which action is most needed to prevent destruction or loss.*
- *Communicate with local land use agencies on the likely impacts of transportation policy decisions on land use and development; and strive for consistency (where appropriate) between transportation plans and programs and applicable land use and development plans.*

The LRTP is organized in a logical manner to effectively communicate the regional plan. Chapter 1 provides an executive summary of the plan along with an overview of the region, including information on the economy, population, and demographic characteristics. Chapter 2 includes detail with regard to the guiding policies, planning forecasts and assumptions, the planning process, and environmental justice considerations. Chapter 3 then provides policies pertaining to each goal and objective of the plan. Chapter 4 outlines the needs of the system, including specific projects. This section is sub divided into ten individual subsections which address the regional needs by mode in the first seven subsections and address specific issues including congestion management, air quality, and environmental mitigation in the last three subsections. Chapter 5 identifies issues in the region pertaining to climate change and air quality, including potential impacts and reduction methods. Chapter 6 provides details on the revenue assumptions and the methodology for forecasting the plan's revenue. This chapter also provides the cost-feasible list of projects which is a key part of the plan. Chapter 7 concludes the report with details on how the plan involved the public in its development. This logical progression of topics is well-articulated and tells a story about the region and its plans for growth.

Communication of Plan Elements

The COFCG's LRTP communicates the plan's elements particularly well. Each element is given a separate chapter, each beginning with an introduction providing an explanation for the purpose and goals of the element. The plan gives a thorough explanation of why the plan is needed, identifies stakeholders, establishes infrastructure needs and implications, determines where needs are greatest, and defines how the plan will be carried out and financed.

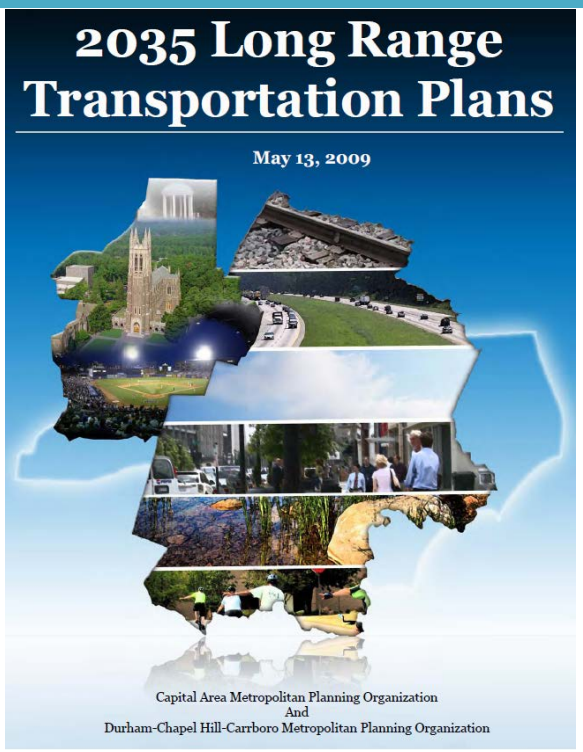
Lessons Learned

The area in which this LRTP is strongest is the succession and communication of topics. The topics are presented in such a way that the reader can start at the beginning and read through to the end without the need to reference other sections for a deeper understanding. Each topic is thoroughly explained in a separate introduction which provides the who's, what's, why's, where's, and how's.

Clarity

Durham-Chapel Hill-Carrboro MPO

The Durham-Chapel Hill-Carrboro MPO's LRTP is part of a joint LRTP with the Capital Area Metropolitan Planning Organization. The report is written in an easy to understand manner with a logical progression of topics and presents the plan in an engaging way.



Nature of the Language

The Durham-Chapel Hill-Carrboro LRTP does an excellent job of presenting information clearly to its intended audience. Generally, the LRTP uses relatively simple language, while still providing an appropriate amount of information. In particular, the LRTP makes use of the executive summary to provide a comprehensive overview of the key points in an easy to read and simplified manner. The plan also draws on tables and figures to provide information in an easily digested format, as seen below in example in **Figure 3-6**. When technical terminology is used, a brief explanation is provided in the text. The title for each chapter is written in a way that the purpose of the chapter is obvious. For example, Chapter 5 is titled 'How We Developed Our Plan,' which outlines the process and model used to develop the plan. At the end of each chapter, a bulleted list is provided to summarize the key points from the section, which helps to reiterate key points and provide a segue to the succeeding chapter.

Authority	Capital Area MPO		Durham-Chapel Hill-Carrboro MPO	
Name of the Plan	CAMPO 2035 **Long-Range Transportation Plan**	CAMPO **Comprehensive Transportation Plan**	DCHC MPO 2035 **Long-Range Transportation Plan**	DCHC MPO **Comprehensive Transportation Plan**
Area Covered	Wake County and parts of Franklin, Granville, Harnett and Johnston Counties	Same as CAMPO Long Range Transportation Plan	All of Durham and parts of Orange and Chatham Counties	Same as DCHC MPO Long Range Transportation Plan
Who requires this plan?	Federal Government	State Government	Federal Government	State Government
Plan's Horizon Year	2035	No Set Year	2035	No set year
Is this plan fiscally constrained?	Yes	No	Yes	No
Must this plan meet air quality standards?	Yes	No	Yes	No

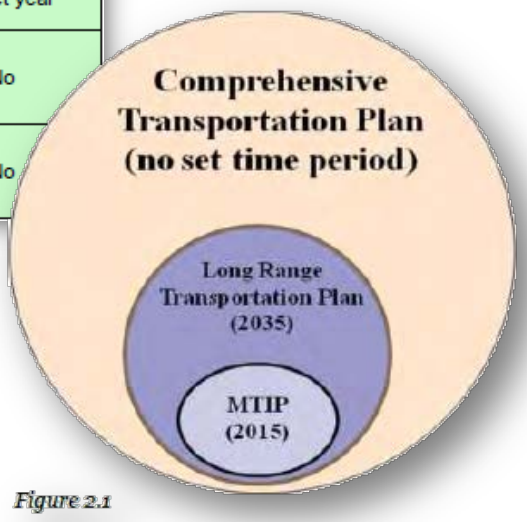


Figure 2.1

Figure 3-6: Use of Figures and Tables to Explain Topics

Clarity

Succession of Topics

The Durham-Chapel Hill-Carrboro MPO's LRTP is divided into nine chapters, each of which builds upon the information provided in the previous chapter. The chapter titles are:

- Chapter 1: Executive Summary
- Chapter 2: What is the Plan?
- Chapter 3: About Our Home
- Chapter 4: Our Vision and How We Will Achieve It
- Chapter 5: How We Developed Our Plan
- Chapter 6: Analyzing Our Choices
- Chapter 7: Our Long Range Transportation Plan
- Chapter 8: Financial Plan
- Chapter 9: Critical Factors in the Planning Process

Chapter 1 provides an executive level summary and overview of the plan. Chapter 2 answers three questions; why is the plan needed, what is included in the plan, and how the plan will be used? Chapter 3 provides demographic information and data, forecasts, and challenges facing the region. Chapter 4 identifies goals, policies, and objectives of the plan. Chapter 5 provides information on the planning process, including identification of stakeholders and responsible parties in the development of the plan, modeling techniques, and related plans and studies. Chapter 6 shares the results of the planning process including socio-economic forecasts, trends, deficiencies, needs, and measures used for performance evaluation. Chapter 7 comprises the bulk of the plan itself. These are the highway, transit, and non-motorized improvements planned for the future. Chapter 8 identifies the costs associated with the proposed projects and estimated available revenue, including revenue assumptions and new funding sources. Lastly, Chapter 9 identifies critical factors in the planning process, such as air quality, environmental justice, and safety and security. This succession of topics is logical and each chapter transitions smoothly into the next to create a unified story.

Communication of Plan Elements

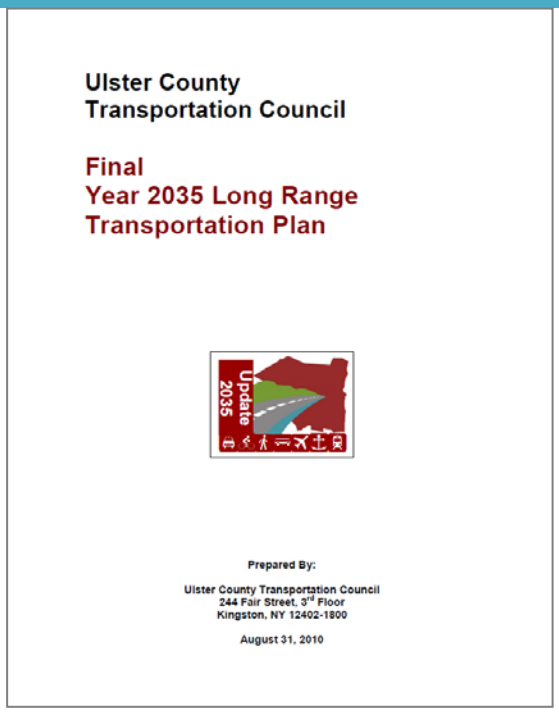
The Durham-Chapel Hill-Carrboro MPO's LRTP does a superb job of communicating the "how's" and "why's" of the long range planning process. Chapter 2 outlines this in a simplified manner to impart to the public the purpose and involved agencies in the LRTP's development. Throughout the report, each element is described in a way that clearly explains the purpose of each step of the plan.

Lessons Learned

The LRTP's logical succession of topics and the inclusion of charts and tables help to describe the planning process and the reasons for the plan in a clear and easy-to-read manner. By summarizing each chapter in a list of bulleted points and providing an easy to read executive-level summary at the beginning, the public will have an easier time of synthesizing and digesting the provided information.

Ulster County Transportation Council

The Ulster County Transportation Council's (UCTC) LRTP is extremely detailed and is assembled for reader comprehension. The document is very clear and well-written with strong support with informational detail that communicates the plan effectively.



Nature of the Language

The LRTP is written using sophisticated but accessible language that is appropriate for the audience. The LRTP is very explanatory in its content and provides background on almost every issue that is addressed in the plan. In the 'Profile of the Region,' all previous plans related to the study area are summarized briefly. Even concepts like work travel patterns are described in great detail to help the reader understand the general commuting patterns. **Figure 3-7** illustrates the commutation patterns provided in the 'Profile of the Region' section. In the 'Existing Needs and Conditions' section each individual policy or program, both at the state and federal level, is discussed in terms of planning. Also, detailed descriptions are provided of each transit agency within the region, along with representative maps as shown in **Figure 3-8**. Every source of potential funding is listed and explained within the 'Financial Section.'

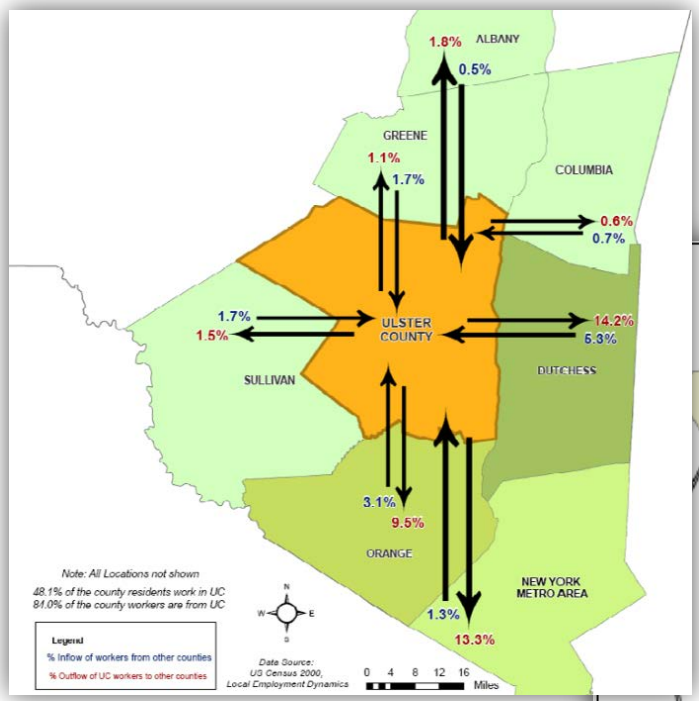


Figure 3-7: Regional Workforce Commutation Graphic

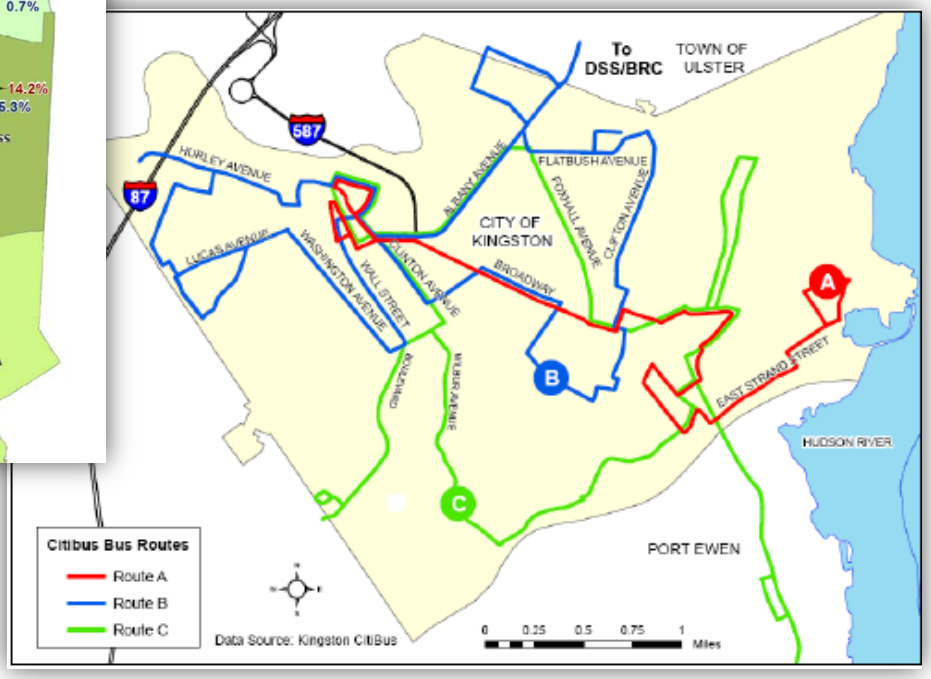


Figure 3-8: Transit Route Map

Clarity

Succession of Topics

The following list presents both the main topics and the subsections within the plan. While the list is somewhat exhaustive, it is a presentation of the bulk of the plan and the extent to which each topic is covered and presented.

- Introduction
- Goals and Objectives
- Profile of the Region
  - Population
  - Employment
  - Housing
  - Income
  - Commutation Patterns
  - Energy Prices
  - Land Use
  - Title VI and Environmental Justice
  - Consultation with Resource Agencies
  - Environmental Mitigation
  - Air Quality
  - Transportation Management Area
- Existing Conditions and Needs
  - Statewide and Regional Corridors
  - Roads and Bridges
  - Bicycle and Pedestrian
  - Public Transit
  - Park and Ride Facilities
  - Special Needs Transportation
  - Transportation Enhancements Program
  - Safety
  - Freight
  - Railroad
  - Aviation
  - Security
- Public Involvement Initiatives
  - Public Meetings
  - Public Involvement Tools
- Financial Plan
  - Financial Planning Requirements
  - Funding Needs and Sources
  - Funding Forecasts
  - Financial Issues
- Recommended Plan
- Implementation Plan
  - Variables
  - Key Relationships
  - Actions
- Performance Monitoring Plan
  - Volume-To-Capacity Ratio
  - Crash Rate
  - Pavement Condition Rating
  - Federal Aid Obligation Ratio
  - Park and Ride Lot Utilization
  - Bridge Condition Rating
  - Transit Fare Box Recovery Ratio
  - Rate of Multiuse Trail Development
  - Daily Vehicle Miles Traveled
  - Public Opinion Survey

The flow of topics listed above is chronological in that it begins with the statement of goals and objectives and identifies existing conditions and needs. Once these two steps are completed, public involvement initiatives are discussed to illustrate how public input was obtained throughout the first two steps of the plan. Financial planning then follows the identification of needs and the obtainment of public opinions regarding those needs, followed by processes for recommending projects, implementing the recommended projects, and creating methods for monitoring the recommended plan.

Communication of Plan Elements

In addition to the UCTC plan's ability to provide all of the necessary details to the reader, the LRTP also describes the "why" and "how" the plan was designed in the manner it was created. For example, in the Recommended Plan section, the variable on which the implementation of the plan will be dependent is discussed, as well as the relationships between the elements

within the plan (land use and transportation, humans and the natural environment, etc.), show how each of these individual areas interrelate and must be planned synergistically to create an integrated transportation system. Once this understanding of the links between the systemic elements is established, an action plan is presented that the reader can fully understand, given the background and comprehension of regional issues.

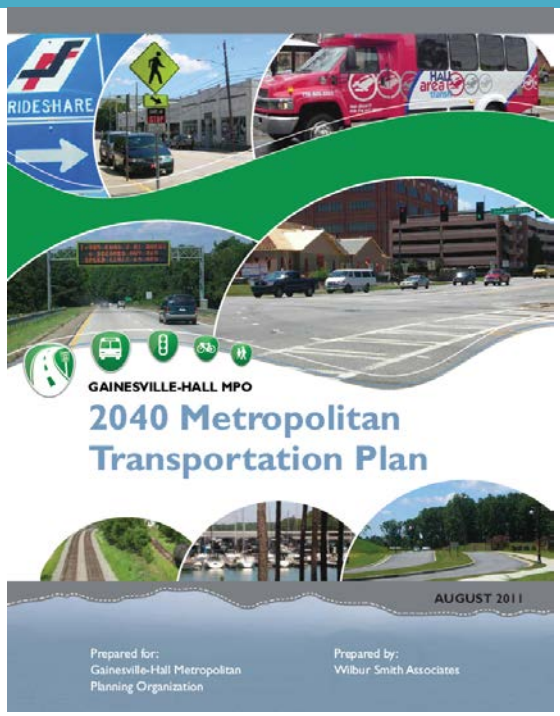
Lessons Learned

The Ulster County LRTP is very detailed in its presentation of the plan and factors that affect the plan in a user-friendly manner. The way in which the story is told in a chronological fashion and includes an explanation of relationship between factors rather than just providing definitions shows the depth of the plan. While the details provided in program and concept definition are complete for a first-time plan reader, they may be considered "too detailed" considering the length of the document. At over 200 pages, the document cannot be considered "user-friendly" in its entirety due to the hefty number of pages. It should be noted that while an LRTP must explain the plan's elements, not every detail needs to be included, or every plan or program mentioned within the document. The ability to explain the relationships between concepts, however, is a commendable practice and is emphasized and well-explained in this plan.

Clarity

Gainesville-Hall MPO

The Gainesville-Hall MPO's (G-H MPO) LRTP, *2040 Metropolitan Transportation Plan* is a user-friendly document that uses appropriate language and text to communicate the plan to a wide audience.



Nature of the Language

The LRTP is written using easy-to-read language with annotative paragraphs. The LRTP speaks to the audience, providing brief details on each listed subject, making the concepts of the LRTP easy to understand for the general public. The document draws on graphics in certain subject areas to illustrate points using supplementary images, as shown in the planning process graphical representations in **Figure 3-9**. The text is clear and concise and the use of visual aids also helps to illustrate the concepts in the report.

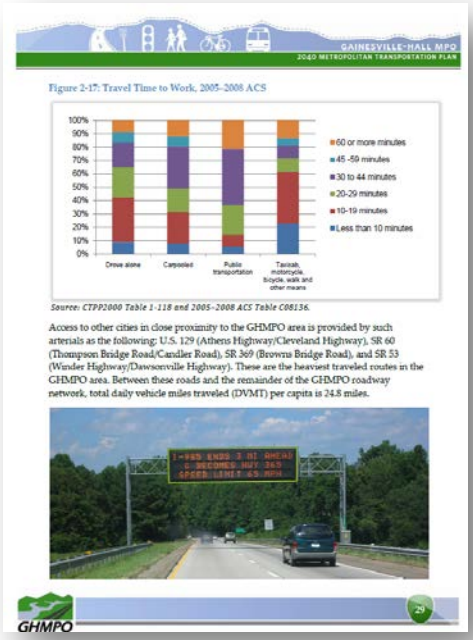


Figure 3-9: Graphics to Increase Clarity

Clarity

Succession of Topics

The chapters of the LRTP are designed to state the purpose of the plan, define the study area, describe the public involvement effort, delineate clear goals and objectives, identify needs by modes, recommend improvements in response to the needs, address both air quality and safety, establish a financial plan, and discuss environmental mitigation measures in response to the plan. The breakdown of each chapter is defined further, as listed:

- **Chapter 1: Planning Context,** explains legal issues, MPO history, the planning process, and other planning studies.
- **Chapter 2: Study Area Characteristics**, which entails descriptions of socioeconomic data, commuting patterns, journey to work modes and travel times, the highway system, the airport system, the freight system, the public transportation system, service characteristics for public transit providers, and the bicycle and pedestrian system.
- **Chapter 3: Public and Partner Participation,** describes how agencies, stakeholders, and the public were included in the LRTP planning process.
- **Chapter 4: Goals, Objectives, and Performance Measures,** discusses SAFETEA-LU, policies, challenges and opportunities, goals and objectives, methods for measuring performance of the system, and the ability to respond to needs and publically supported issues.
- **Chapter 5: Multimodal Transportation Needs,** identifies roadway needs, travel forecasting of highway scenarios, bicycle and pedestrian needs, public transportation needs, additional studies and initiatives like high speed rail and commuter bus, and future needs to draw focus back to the 2040 LRTP goals.
- **Chapter 6: Multimodal Transportation Improvements,** includes policy development of highway improvements, bicycle and pedestrian improvements, public transportation improvements, transit capital projects, pedestrian improvements to support transit, and integration of the congestion management program.
- **Chapter 7: Air Quality,** addresses the Clean Air Act and creates Transportation Control Measures (TCMs).
- **Chapter 8: Safety and Security**, speaks to the safety of the plan and the security of facilities.
- **Chapter 9: Financial Plan,** reviews state, federal, and local revenues, cost estimates, and the balance of budget with suggested expenditures.
- **Chapter 10: Financially Constrained Plan,** discusses multimodal projects, funding priorities, build conditions, performance measures analysis, and unfunded priorities.
- **Chapter 11: Environmental Mitigation,** evaluates impacts on the environment, including natural and cultural resources, and identifies methods of mitigating negative impacts as well as establishes areas for environmental justice.

These chapters are designed to address critical aspects of the plan in a methodical way as a means to introduce the Financially Constrained Plan as a culmination of the goals, objectives, and performance measures as they are related to the identification of needs, identification of improvements, and the assessment of these improvements with regard to the environment, public safety, and available funding.

Communication of Plan Elements

The G-H MPO's LRTP is a good example of a descriptive plan that informs the reader and speaks at an appropriate level that can easily be understood. One of the well-communicated elements of the plan was the use of performance measures to assess needs and improvements to drive the most important projects to the forefront of the plan. For example, in Chapter 4, the measures for project performance evaluation are explained with great detail using graphics. This early discussion of performance measures helps familiarizes the reader with the measures and how they are calculated prior to the actual application of the measures for project evaluation. **Figure 3-10** shows the introduction of the concept of level-of-service

Clarity

(LOS) and then a corresponding image to further explain LOS applying a visual approach. It also includes descriptions of accessibility and crash measures that area detailed in the plan.

The performance measures are discussed in the plan with regard to each scenario in the assessment of regional needs and are re-addressed later in the development of the Financially Constrained Plan to illustrate the impact of the improvements by scenario. By placing a strong emphasis on the interpretation of performance measure results and explaining their significance, the G-H MPO helps to highlight the data-driven aspects of the planning process.

In addition to the emphasis placed on performance measures, the G-H MPO also emphasizes data used to evaluate existing

4.6.1. Volume to Capacity Ratio

Measuring roadway congestion intensity along a corridor can be accomplished by examining volume-to-capacity (V/C) ratios. This measure is popular because data on traffic volumes are relatively easy to obtain and the measures (traffic volumes and roadway capacities) exist in the GHMPO travel demand model. V/C ratio is defined as the ratio of demand flow rate to capacity for a traffic facility.

4.6.2. Level of Service

Level of Service (LOS) is defined as a qualitative measure from A (best) to F (worst) describing operational conditions within a traffic stream, generally described in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. LOS along a corridor may be based on a number of parameters, including:

- V/C ratios – from travel demand models
- Density – on freeway mainline segments, using Highway Capacity Manual (HCM) methodologies
- Travel Speed – urban streets, using HCM methodologies

Figure 4-4 illustrates the level of service definitions between LOS A and LOS F.

4.6.3. Intersection Level of Service

Travel demand models do not measure congestion at intersections. Obtaining level of service at intersections requires collecting traffic volumes at each intersection, including turning movement counts. Level of service for unsignalized and signalized intersections is based on control delay. Control delay is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. In general, control delay is the difference between the travel time actually experienced to the travel time experienced under ideal conditions in the absence of traffic control, geometric delay, incidents, and other vehicles.

4.6.6. Accessibility Measures

Accessibility measures identify how connected a region is to employment sites, retail centers, activity centers, and other land uses that produce or attract a high percentage of local/regional travel demand. Measuring accessibility is typically completed at the regional level and involves calculating a percent of the population that can access employment sites, retail centers, activity centers, etc. within a specific amount of time.

Based on the availability of data, the following accessibility measures could include the following:

- Percent of labor force within 20 minutes drive of employment centers
- Percent of population within 15 minutes of selected activities (retail, hospitals, elementary schools) using all modes
- Percent of population within a 5 miles of a park and ride lot
- Percent of population within ¼ mile walking distance to selected activities (retail, hospitals, elementary schools)
- Percent of population within a ½ mile of a public transportation stop

4.6.7. Crash Measures

Crash measures identify if there is a high concentration of crashes at a particular location along a corridor or at a particular turning movement at an intersection or cross street. Crashes certainly impact travel conditions and can be the cause of nonrecurring congestion along corridors and intersections. Identifying "hot spot" crash locations and examining the location in the field can assist in identifying potential projects to improve the safety and function of the roadway corridor or intersection. Common improvements could include improving sight distance, adding turn lanes, adding traffic signals, implementing street calming devices, etc.

Crash measures in the GHMPO area could include the following:

- Number of crashes along a specified corridor
- Number of crashes at a particular intersection
- Type of crashes along a specified corridor
- Type of crashes at a particular intersection
- Number of crashes per million vehicles entering a spot location
- Number of crashes per million vehicle-miles over a section of roadway

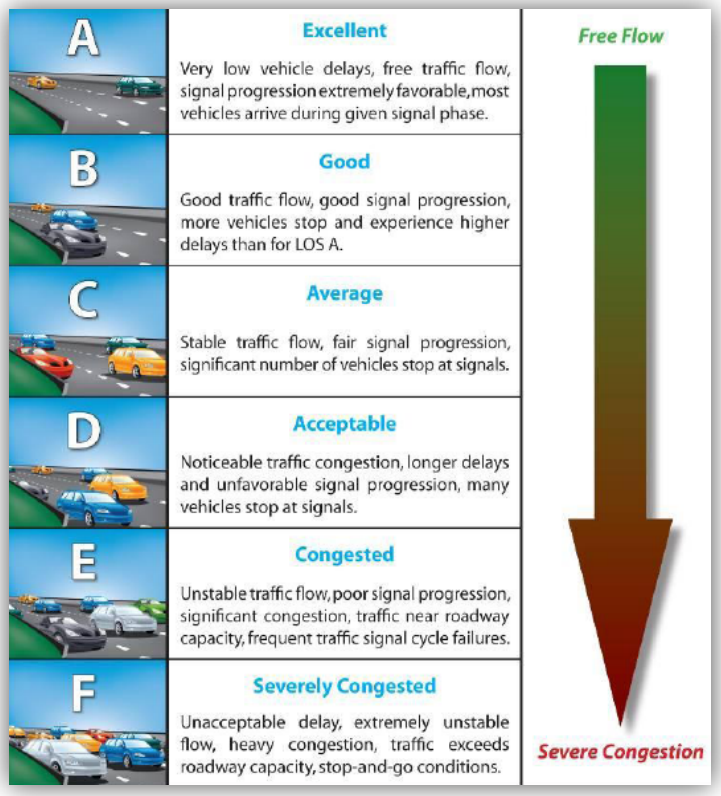


Figure 3-10: Explanation of Performance Measures

needs and conditions. For example, **Figure 3-11** shows the commuter trends between the two major counties in the area and maps the concentration of residents living in one county and working in the other. Similar to the weight placed on performance measures to drive the needs and selected improvements of the plan, the socioeconomic data is used to create a platform for identifying areas of high transportation demand and empirically supporting the recommendations of the plan.

Lessons Learned

The G-H MPO's LRTP was designed in a logical manner, with progressing topics that explains its design, and specifically why certain projects were selected based on available funding. The plan is very clear in its ability to communicate the significance of both socioeconomic and transportation performance data in the development of the plan. The ability to convey what data is being used, from where it is derived, and how it impacts the needs and improvements for the region support the plan with objective information, which presents a reasonable and transparent plan to the reader.

Figure 5-16: 2008 Concentrations of Residents who live in Gwinnett County and work in Hall County

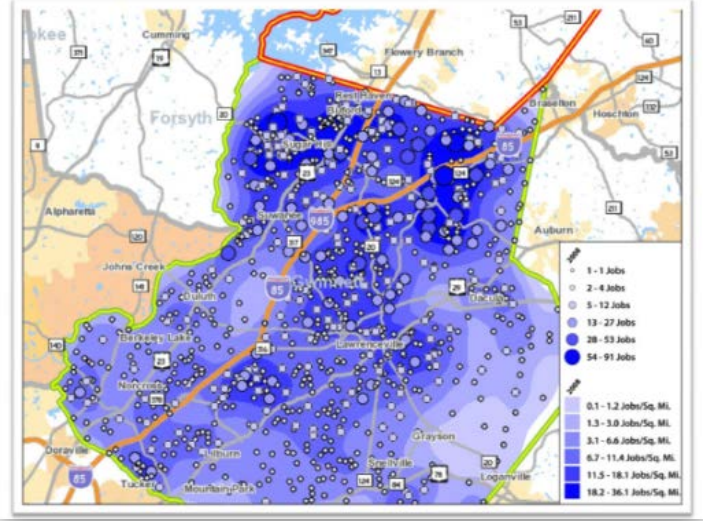


Figure 5-17: 2008 Concentrations of Residents who live in Hall County and work in Gwinnett County

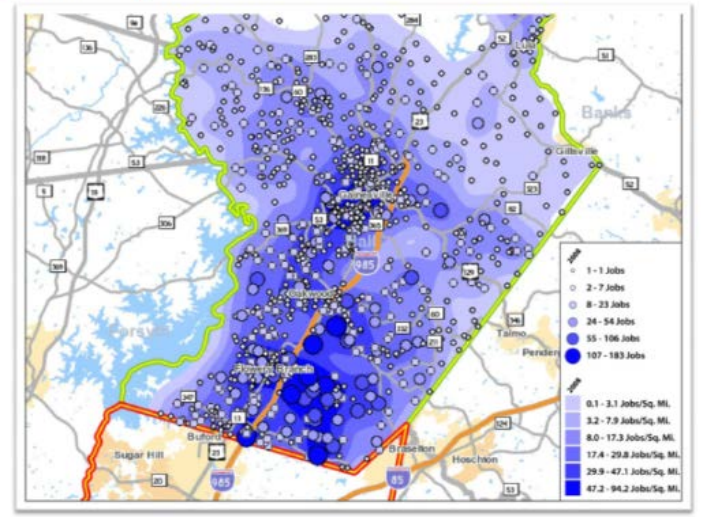


Table 5-14: 2002 and 2008 Commute Trends for the Gainesville: Where Workers Live

Work in the City of Gainesville, Live in:	2002		2008		Change 2002-2002	
	Total Workers	Percent of Workers	Total Workers	Total Workers	Total Increase	Percent of Increase
Hall	17,610	56.3%	18,983	48.1%	1,373	7.8%
Gwinnett	1,710	5.5%	2,984	7.6%	1,274	74.5%
Jackson	1,000	3.2%	1,381	3.5%	381	38.1%
Forsyth	880	2.8%	1,258	3.2%	378	43.0%
Habersham	973	3.1%	1,109	2.8%	136	14.0%
White	791	2.5%	1,033	2.6%	242	30.6%
Lumpkin	729	2.3%	904	2.3%	175	24.0%
Fulton	590	1.9%	891	2.3%	301	51.0%
DeKalb	562	1.8%	759	1.9%	197	35.1%
Clarke	372	1.2%	667	1.7%	295	79.3%
Other	6,086	19.4%	9,523	24.1%		
Total	**31,303**	**100.0%**	**39,492**	**100.0%**	**8,189**	**26.2%**

Source: U.S. Census Local Employment Dynamics.

Table 5-15: 2002 and 2008 Commute Trends for Hall County: Where Workers Live

Work in Hall County, Live in:	2002		2008		Change 2002-2002	
	Total Workers	Percent of Workers	Total Workers	Total Workers	Total Increase	Percent of Increase
Hall	34,913	56.1%	33,629	47.2%	-1,284	-3.7%
Gwinnett	4,480	7.2%	6,491	9.1%	2,011	44.9%
Jackson	1,990	3.2%	2,592	3.6%	602	30.3%
Forsyth	1,726	2.8%	2,280	3.2%	554	32.1%
Fulton	1,113	1.8%	1,828	2.6%	715	64.2%
Habersham	1,753	2.8%	1,824	2.6%	71	4.1%
White	1,379	2.2%	1,721	2.4%	342	24.8%
DeKalb	1,027	1.6%	1,521	2.1%	494	48.1%
Lumpkin	1,392	2.2%	1,457	2.0%	65	4.7%
Barrow	812	1.3%	1,314	1.8%	502	61.8%
Other	11,677	18.8%	16,549	23.2%		
Total	**62,262**	**100.0%**	**71,206**	**100.0%**	**8,944**	**14.4%**

Source: U.S. Census Local Employment Dynamics.

Figure 3-11: Socioeconomic Data to Illustrate Travel Patterns between Counties

Graphics

Introduction to Graphics Assessment

Graphics are a critical component in the composition of any type of report distributed to the general public. The creative use of color, imagery, and visual representations through pictures and illustrations embedded within a document encourages readers to take an interest in the LRTP.

Measures of Evaluation

The intent of the graphical evaluation was to identify the ability of an LRTP's layout and graphical contents to reflect the content of the plan, while simultaneously being able to appeal to a mass audience. As a means to assess an LRTP's Graphics, the following three measures were used:

- Appearance of General Layout
- Enhancement of Content
- Effectiveness of Images & Illustrations

Appearance of General Layout considers the overall look of the document, including page set up, typography, and elements of design, to evaluate the ability of the document to catch the reader's eye. The use of design elements, including line, color, shape, space, and form, to create balance, unity and structure was examined in each LRTP. Outstanding LRTPs in this category exhibited sound design principles, for example: providing elements of contrast, repeating thematic concepts, creating connective alignments in space, increasing proximity of related items, and developing a hierarchical scale to highlight critical content. Simple, vibrant color schemes achieved through a disciplined application of "color wheel" design principles are preferred, as they will not overwhelm the reader's eye. Basic and sophisticated typography was also noted, as clear fonts facilitate easy reading. The use of bullets, side panels, strategic image placement, and whitespace to eliminate massive "walls of text" were also a preferred design strategy.

Enhancement of Content relates to the graphics in the document, focusing on the capacity of the graphics to not only provide illustrations within the report but also build upon the substance of the text. LRTPs include a myriad of graphs, tables, charts, and maps to illustrate and highlight data and information that is included within the text. LRTPs were assessed on their ability to utilize these visual principles to expand on the document's content as a means to illustrate concepts and data rather than using lengthy text-based narrative descriptions.

Effectiveness of Images & Illustrations considers the nature of the graphics in the context of the document. This criterion takes the evaluation of graphics even further to include appropriate placement of visuals, as well as the overall quality of the graphics.

LRTP Selection

A list of the MPOs that received the highest scores for Graphics in the initial review of LRTPs is included in **Figure 4-1**. Six LRTPs were selected, two from each population category (large, medium, and small). The two MPOs from the large "1,000,000 and Above" population category include: the Southern California Association of Governments (SCAG) and the Delaware Valley Regional Planning Commission (DVRPC). The two MPOs in the medium "200,000 to 1,000,000" population category include: the Indian Nations Council of Governments and the Greenville-Pickens Area Transportation Study (GPATS). The Rapid City Area MPO and the East Central Intergovernmental Association (ECIA) were selected for the small "200,000 and Below" population category.

Graphics

Table 4-1: MPOs Selected for Graphics Assessment

MPO	State	Major City	Area (Sq. Mi.)	Population 2000	Population 2010	LRTP Year
Southern California Assoc. of Governments	CA	Los Angeles	38,649	16,516,006	18,051,203	2035
Delaware Valley Regional Planning Commission	PA, NJ	Philadelphia	3,811	5,387,407	5,626,318	2035
Indian Nations COG	OK	Tulsa	1,444	705,995	778,022	2030
Greenville-Pickens Area Transportation Study	SC	Greenville	777	465,549	547,397	2030
Rapid City Area MPO	SD	Rapid City	412	93,294	105,538	2035
East Central Intergovernmental Association	IA, IL, WI	Dubuque	201	76,932	80,992	2036

Graphics

Southern California Association of Governments

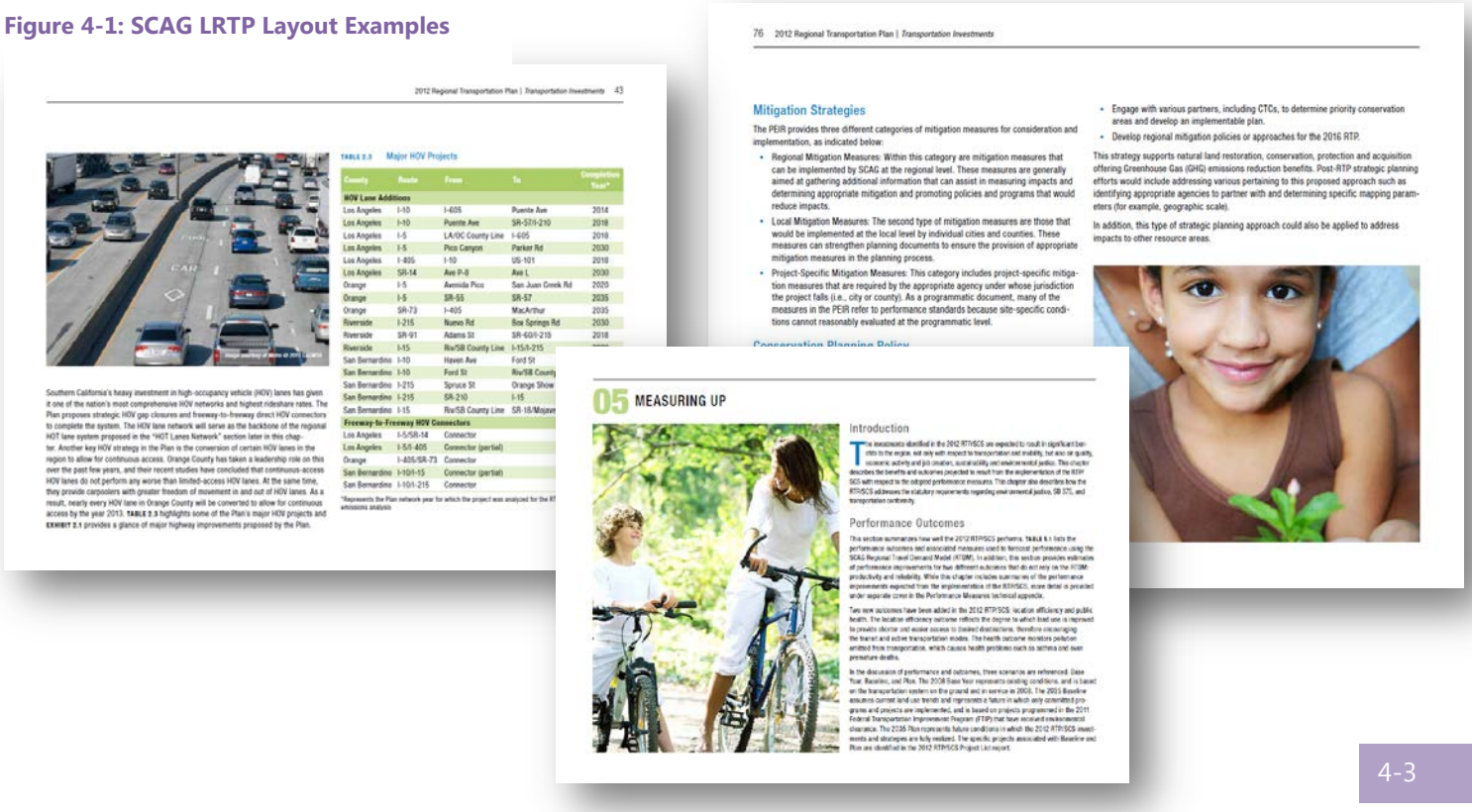
The Southern California Association of Governments' (SCAG) LRTP is titled *Regional Transportation Plan 2012-2035: Sustainable Communities Strategy, Towards a Sustainable Future*. The title alone identifies one of SCAG's most critical goals: to preserve and ensure a sustainable regional transportation system. The document's cover depicts a variety of images that illustrate the overarching concept of sustainability, depicting various images of bicycles, alternative transportation modes, and environmental features. This theme of sustainability is reinforced throughout the document and the layout and graphics included in the LRTP are used to further emphasize sustainability.

Appearance of General Layout

SCAG's LRTP was developed in landscape format, using a two column layout. The fonts used in the document are narrow, making the text appear both clear and professional, while condensing words to allow more to fit onto one page without having to reduce font size. The use of whitespace in the SCAG LRTP is complementary, creating generous margins both vertically and horizontally. Leaving these areas "white" prevents images or text from dominating the page and contributes to maintaining the clean appearance of the report. The document also includes an ample number of photographs, charts, tables, and bullet lists within the margins to add a touch of color and animation to almost every page, eliminating walls of text and providing visual displays of concepts discussed in the document.

The color scheme used in SCAG's LRTP includes variations of blue, purple, and green. Green, a color that in recent decades has been directly associated with environmental practices and policies, is incorporated into the tables and most graphics within the document, again promoting the LRTP's accent on sustainability. **Figure 4-1** shows three pages from SCAG's LRTP that use green coloring in both the layout and photos to invoke impressions of sustainability.

Figure 4-1: SCAG LRTP Layout Examples



Graphics

Enhancement of Content

In the SCAG LRTP, graphics are not only used to provide colorful breaks within the text. Graphics are also utilized to augment the content by including definitions, illustrations, and explanations of words and concepts integrated into the document's text.

The LRTP takes advantage of the additional whitespace provided in the margins on some pages by using this space for a text box containing explanations and definitions, while on other pages the entire layout is used for this purpose. **Figure 4-2** illustrates both uses of space to explore planning or policy features in greater depth than presented in the body of the main report.

In addition to text and imagery that accompany concepts in the text, the incorporation of tables and charts is also used effectively to visually illustrate concepts, facilitating a further understanding for the reader. For example, **Figure 4-3** depicts two graphs from the LRTP that apply scales to illustrate, one, highway productivity losses in terms of both speed and traffic flow rates and, two, disparity in terms of highway reliability and mobility. Both graphics present ideas that are not easily explained through the use of language alone. The graphics aid in showing the reader exactly how significantly speed decreases and traffic flow slows during peak hours, as well as how fluctuations in travel time can vary significantly between highway facilities but still yield the same overall average delays.

Figure 4-2: Use of Space to Explain Content

Compass Blueprint

Since 2004, Compass Blueprint has been a model for integrating land use and transportation planning and turning regional vision into local reality. Guided by four core principles, Mobility, Livability, Prosperity and Sustainability, these efforts have effectively given the region a "jump-start" in implementing this SCS. At the core of Compass Blueprint are Demonstration Projects – incentive-based, voluntary partnerships between SCAG and local governments that apply innovative approaches and tools to local plans that support regional priorities. As of September 2011, SCAG has provided over $10.5 million in incentive funds for 132 Demonstration Projects in 65 local jurisdictions. Projects have included transit-oriented development plans for station areas along new light-rail alignments, downtown revitalization efforts, community visioning projects in low-income communities, and other projects that support shared local and regional goals. Exhibit 4.4 shows all completed Compass Blueprint Demonstration Projects to date. A complete list of past and current Compass Blueprint Demonstration projects can be found in Appendix: SCS Background Documentation.

Future Demonstration Projects will continue to serve as models throughout the region by focusing on regionally-significant local plans that directly implement the SCS and its goal of translating policy to on-the-ground land use changes and multi-modal transportation improvements. Concurrently, Compass Blueprint will further incentivize local implementation of the SCS through the Compass Blueprint Awards Program recognizing models of innovative planning in the region, and through the Toolbox Tuesdays program - free, monthly, professional training events for local planners in cutting-edge planning tools and approaches developed in Demonstration Projects.

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Through PowerPoint presentations and handouts, participants were provided with a description of each scenario and an understanding of how development location, neighborhood design, housing options and mix, and transportation investments compared between scenarios and resulted in varying impacts for the region.

With these intrinsic tradeoffs in mind, the group then engaged in a discussion of objectives and priorities for the 2012 RTP/SCS, including mobility, environment, health, modes of travel, economy, safety, equity, and housing. Input was collected through anonymous remote-polling instruments (the results of which were presented in real-time) and through group discussions.

Collective input from all of the workshops showed the economy, environment, and transportation as top priorities for the region. Discussions focused on mobility, modes of travel, environmental and community impacts, and potential funding mechanisms. Polling results indicated a preference that future employment, commercial and residential areas be located in mixed use areas. Most participants also indicated a desire for increased travel mode choice in the region, and for transportation investments to be made in all modes (auto, bus, rail, bicycle, etc.). Additional results from the workshops can be found in Appendix: Public Participation and Consultation.

RTP/SCS Overall Land Use Pattern

SCAG used the feedback from local planning sessions, public outreach workshops, and consultation with local jurisdictions to work collaboratively with policymakers, stakeholders, and local governments to develop and analyze a series of 2012 RTP/SCS alternatives, and eventually arrive at the regional RTP/SCS.

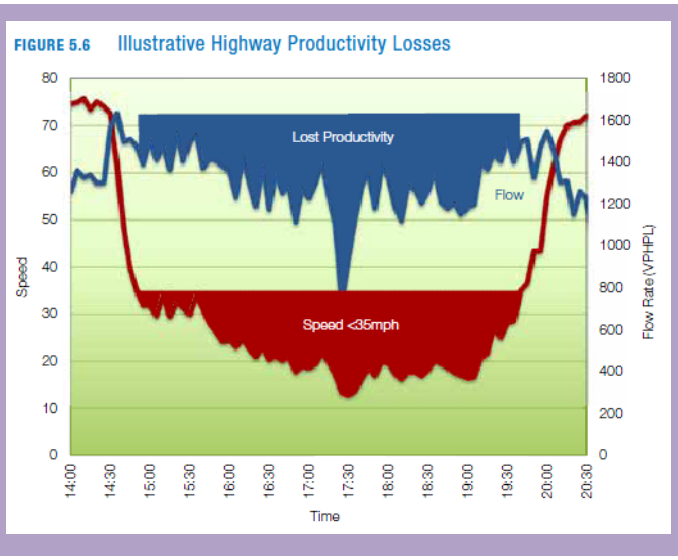
The RTP/SCS was built primarily from local General Plans and input from local governments using the Local Sustainability Planning Tool, from the subregional COGs, and from the County Transportation Commissions, as previously discussed. The adopted Subregional SCSs of the Gateway Cities COG and Orange County COG were integrated as provided into the regional RTP/SCS. These subregional SCSs were developed in close collaboration with SCAG and utilize various strategies that help achieve estimated GHG reduction targets.

The Gateway Cities COG (GCCOG) Subregional SCS, found in Appendix: Subregional SCS Strategies, was built upon each local jurisdiction selecting GHG reduction strategies that are a blend of efforts that GCCOG and its communities have been pursuing over the last decade and future efforts that each jurisdiction plans to implement over the next 25 years. GCCOG implemented an outreach program that provided stakeholders and

Delegated Subregions

Unique to SCAG is a special provision within SB 375 that allows any subregional Council of Governments (COGs) the option of developing its own subregional SCS within the region. SCAG adopted a Subregional Framework and Guidelines (see Appendix 20) to establish standards for preparing and submitting a subregional SCS, while laying out SCAG's role in facilitating and supporting the subregional effort with data, tools, and other assistance.

The Orange County Council of Governments and the Gateway Cities Council of Governments chose to develop their own SCS and entered into Memoranda of Understanding with SCAG specifying submission schedules and standards for each component of the subregional SCS. While the subregional COGS were responsible for conducting their own research and outreach to develop their subregional SCS, they worked closely with SCAG through workshop preparation, data and information sharing, and regular meetings. SCAG's Local Sustainability Planning Tool was also made available to the subregions along with trainings and one-on-one working sessions to assist in the review and revision of the preliminary scenarios. The two subregional SCS documents can be found, in their entirety, in Appendix: Subregional SCS Strategies.



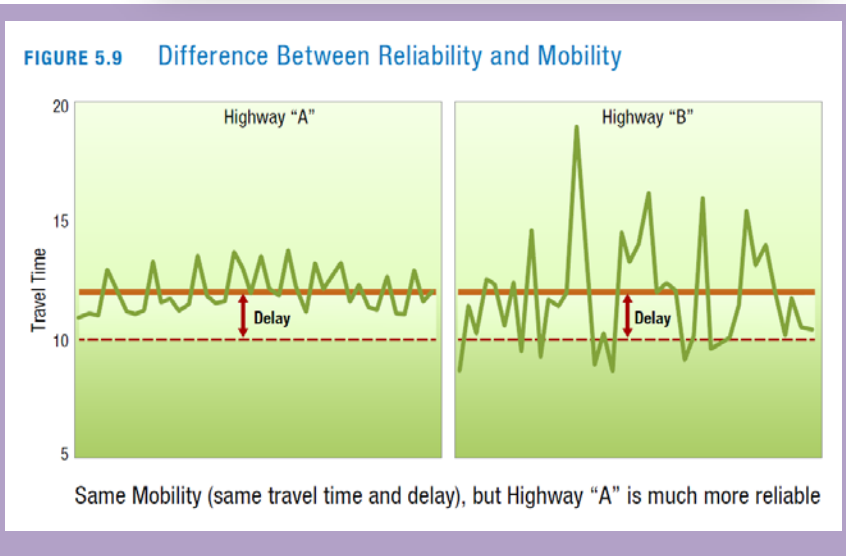
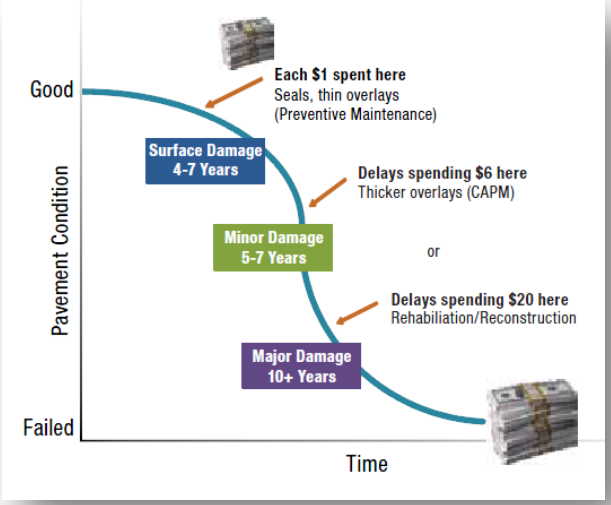


Figure 4-3: Explanatory Graphs in the SCAG LRTP

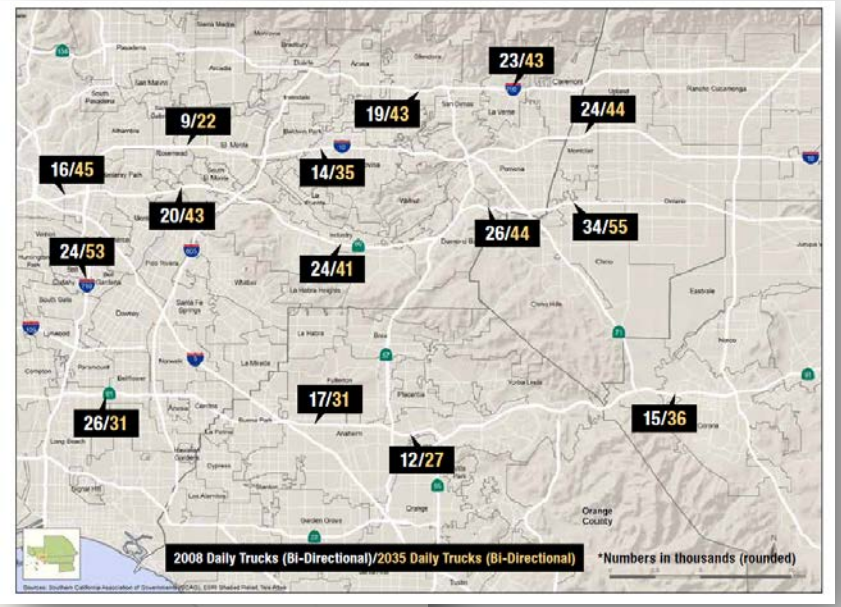
Graphics

Effectiveness of Images & Illustrations

SCAG's LRTP is noteworthy in the development of high quality and innovative graphics to contribute toward the content of the document's text. The graphics are exceptional not only because they extend the document's substance but because of their first-rate quality, appropriate placement within the layout, and distinctive ability to "tell a story" to the reader. **Figure 4-4** provides three examples of graphics used in the LRTP that effectively build upon concepts through creative methods of illustration.



The graph of roadway preservation cost effectiveness offers a scale of pavement condition over time and its correlation to the amount of money necessary to maintain the infrastructure. The map of truck volumes places the difference in truck volumes by number between year 2008 and 2035 throughout the area, illustrating where major shifts in truck movement are expected over the next three decades. The image of public involvement survey results shows the responses to a specific question by county, and as a whole for the entire region. The wheels depicting the responses are located as they appear on a map, which helps to illustrate the results by area.



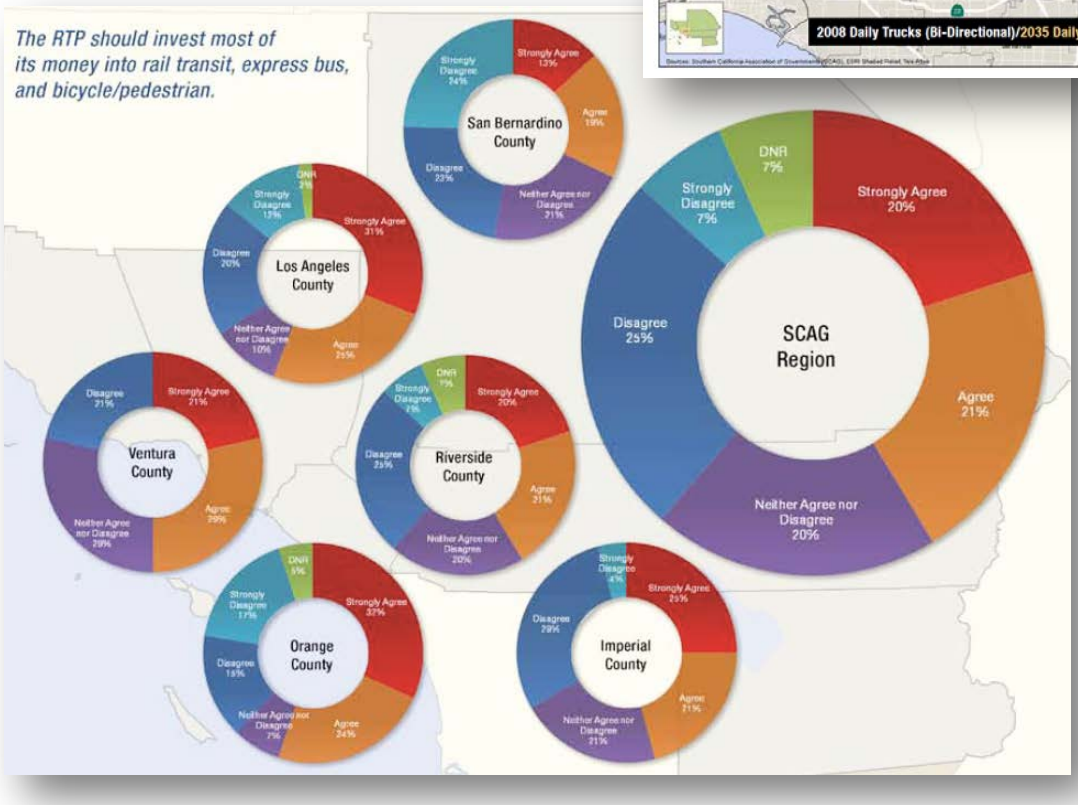
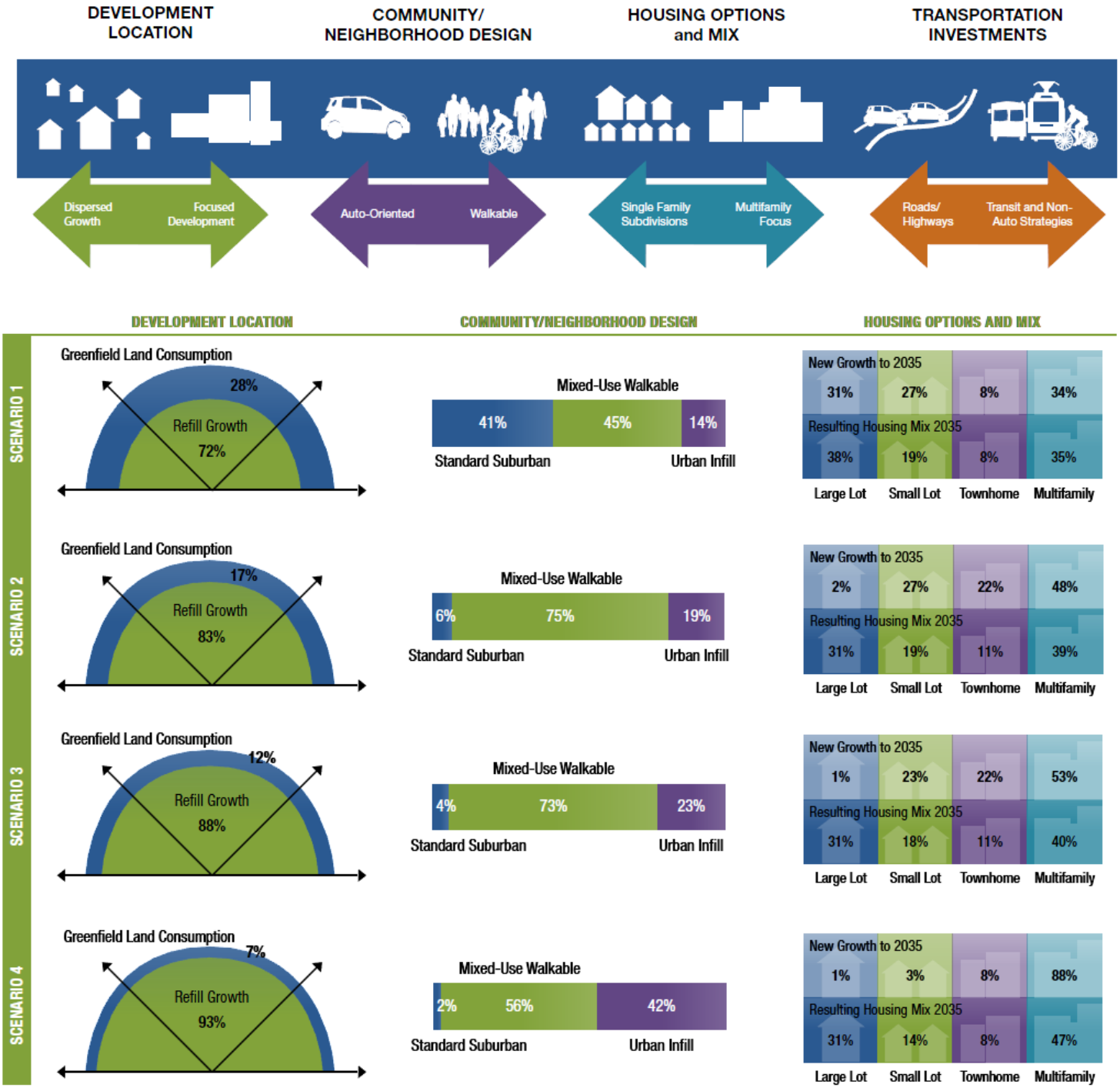


Figure 4-4: Creative Methods of Illustration

Graphics

The SCAG LRTP's use of graphics is most remarkable in its ability to effectively compare across various planning scenarios. **Figure 4-5** shows the graphics used to illustrate the planning elements used in developing its four planning scenarios, and three different types of charts used to show how each of the four scenarios measured with regard to each of the listed elements. These graphics are unique in their presentation and effectively illustrate the variation in scenario results.

Figure 4-5: SCAG Scenario Comparison Presentation



Graphics

The photographs previously shown in Figure 4-1 illustrate the effective use of images. The photographs impart valuable messages of the LRTP as they portray citizens within the community that embody the plan's vision, goals and objectives. Throughout the LRTP additional pictures of citizens biking, walking, using transit, and interacting are shown to emphasize the importance of sustainable practice. This topical imagery supports the plan's principles through the visualization of the information presented in the text. Additional examples that effectively incorporate photographs are provided below in **Figure 4-6**.

Lessons Learned

SCAG illustrated best practice in its use of graphics through the use of layout and whitespace to create an easy to read, visually appealing, and professional looking document. The use of strategic and consistent colors aids in maintaining a consistent theme. Text boxes and graphs are used throughout the document to enhance the text by providing a visual representation of topics within the plan. The use of innovative, topical story-telling graphics expands on the ability of graphics to enhance the text by providing optimal methods of visualization that contribute to overall reader comprehension.

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Lastly, the 2012 RTP/SCS analyzes environmental justice (EJ) impacts to address equitability of the costs and benefits of the Plan are equitable.

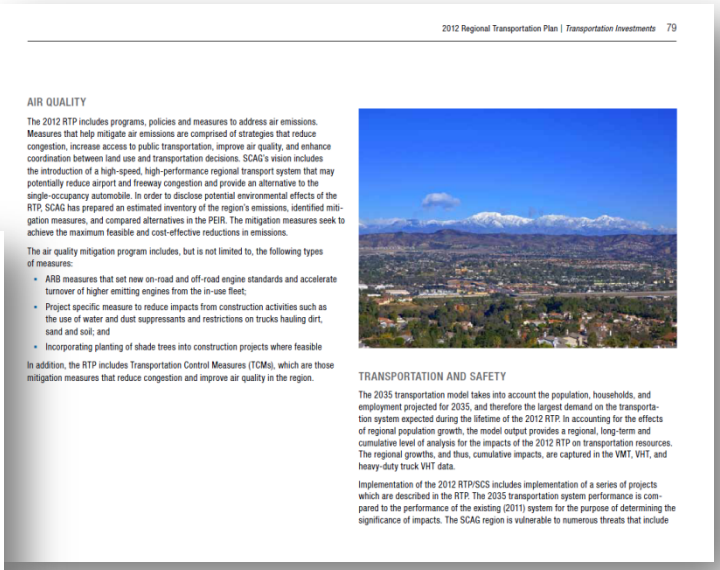
The Environmental Justice appendix includes an analysis of pollution exposure within 500 feet of highly traveled corridors in the region, i.e. urban roads with more than 100,000 vehicles per day or rural roads with more than 50,000 vehicles per day. Additionally, SCAG conducted a Health Risk Assessment as part of the 2012 RTP/SCS Program Environmental Impact Report. This analysis evaluated emissions and cancer risk impacts resulting from transportation-related toxic emissions. The results are contained within the Program Environmental Impact Report. In partnership with our regional stakeholders, these actions will support a healthy future for Southern California.

Adaptation

Climate change mitigation means reducing or sequestering greenhouse gases, whereas adaptation is preparing for known impacts of climate change. Over the coming century, climate change studies project that Southern California will be expected to manage extremes of precipitation and temperature, increased storm frequency and intensity, and sea-level rise. These climate changes will impact streamflow, flooding, water supply, sea level and soil water content. These impacts will affect agriculture, stormwater, wastewater treatment, wildfire risk, roads, forest health, and biodiversity. These impacts will also have consequences for public health, economic livelihoods, the financial sector, the insurance industry, individual comfort and recreation. In practice, these impacts will mean coping with:

- Longer and hotter heat waves,
- Increased urban heat island impacts, such as heat-related illness and higher cooling demand and costs,
- More damaging storms and storm surges,
- Greater river flooding,
- Increased frequency and intensity of combined sewer overflows,
- More intense and extended duration of droughts,
- Longer water supply shortages, and
- Declines in local ecosystem services, such as species loss or the loss of specific ecosystem types (e.g., forests or coastal wetlands).

The associated impacts on buildings, water and transportation infrastructure, emergency preparedness, planning, and quality-of-life issues, have only now begun to be considered. Climate and impact modeling can offer a scientific basis for more informed planning, including improved data gathering. However, additional monitoring, development of improved management practices, and coordination among state and local agencies and the private sector are critical needs as well. Failure to anticipate and plan for climate variability and the prospect of extreme weather and related events could have serious impacts on the regional economy and quality of life. Starting now and continuing in the years and decades ahead, we can adapt to these new risks through resilient resource and land-use choices.



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AIR QUALITY

The 2012 RTP includes programs, policies and measures to address air emissions. Measures that help mitigate air emissions are comprised of strategies that reduce congestion, increase access to public transportation, improve air quality, and enhance coordination between land use and transportation decisions. SCAG's vision includes the introduction of a high-speed, high-performance regional transport system that may potentially reduce airport and freeway congestion and provide an alternative to the single-occupancy automobile. In order to disclose potential environmental effects of the RTP, SCAG has prepared an estimated inventory of the region's emissions, identified mitigation measures, and compared alternatives in the PEIR. The mitigation measures seek to achieve the maximum feasible and cost-effective reductions in emissions.

The air quality mitigation program includes, but is not limited to, the following types of measures:

- ARB measures that set new on-road and off-road engine standards and accelerate turnover of higher emitting engines from the in-use fleet;
- Project specific measure to reduce impacts from construction activities such as the use of water and dust suppressants and restrictions on trucks hauling dirt, sand and soil; and
- Incorporating planting of shade trees into construction projects where feasible

In addition, the RTP includes Transportation Control Measures (TCMs), which are those mitigation measures that reduce congestion and improve air quality in the region.

TRANSPORTATION AND SAFETY

The 2035 transportation model takes into account the population, households, and employment projected for 2035, and therefore the largest demand on the transportation system expected during the lifetime of the 2012 RTP. In accounting for the effects of regional population growth, the model output provides a regional, long-term and cumulative level of analysis for the impacts of the 2012 RTP on transportation resources. The regional growths, and thus, cumulative impacts, are captured in the VMT, VHT, and heavy-duty truck VHT data.

Implementation of the 2012 RTP/SCS includes implementation of a series of projects which are described in the RTP. The 2035 transportation system performance is compared to the performance of the existing (2011) system for the purpose of determining the significance of impacts. The SCAG region is vulnerable to numerous threats that include

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03 FINANCIAL PLAN

Introduction

The financial plan identifies how much money is available to support the region's surface transportation investments including transit, highways, local road improvements; system preservation and demand management goals. It also addresses the need for investment in goods movement infrastructure. Improving ground access in and around major goods movement facilities, and enhancing major highways and railways are critical to maintaining the health of Southern California's economy. The 2012 RTP calls for traditional and non-traditional revenue sources for implementing a program of infrastructure improvements to keep freight and people moving.

The 2012 RTP financial plan identifies a number of reasonably available revenue sources to provide additional funding to supplement existing transportation dollars. The SCAG region's financially constrained plan includes a core revenue forecast of existing local, state, and federal sources along with funding sources that are reasonably available over the time horizon of the RTP. The plan also includes action steps to obtain the revenues necessary for implementing the region's transportation vision.

The 2012 RTP acknowledges the considerable challenges associated with financing transportation investments. The plan highlights the importance of finding new and innovative ways to pay for transportation, including our ever-expanding backlog of investment needs just to maintain the existing system. Nationally, we are facing a very real, near-term insolvency crisis with the federal Highway Trust Fund as fuel tax receipts continue to take a precipitous decline. Additionally, the viability of California's State Highway Account remains in question as only a fraction of our needs are funded through state sources.

To backfill limited state and federal sources, our region continues to rely upon local initiatives (74 percent of core revenues) to meet transportation needs. With a total of seven sales tax measures throughout the region, including the passage of Measure R in Los Angeles County since the adoption of the 2008 RTP, we are increasingly becoming self-reliant. However, the national purpose served by Southern California's transportation system—particularly in the movement of goods—points to the need for stronger state and federal commitment. Our transportation system is the responsibility of all levels of government.

In the SCAG region, our decision-makers continue to take a leadership role in advancing innovative transportation solutions. The 2012 RTP establishes a framework toward a

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04 SUSTAINABLE COMMUNITIES STRATEGY

Introduction

Southern California today faces unprecedented challenges in accommodating the additional population and economic activity expected over the next 25 years. Once a major destination for people from other states, Southern California now sees population growth driven mostly by natural increase from within the region—births over deaths—and by international immigration. Over the last generation it has become one of the most diverse and multicultural regions in the world.

Southern California is now home to 18 million people. The region is now seen as crowded, congested, and—despite the recent downturn in the housing market—an expensive place to build a life.

While the region was once known worldwide as the "capital of sprawl," the region today has little raw land left to accommodate additional growth. Moreover, the region has struggled in its efforts to generate real economic growth over the past two decades.

In the face of all these long-term trends, Southern California is expected to accommodate an additional 4 million people over the next 25 years, with equally significant household and employment growth (see **FIGURE 4.1**). This future growth will put additional pressure on a transportation system that is already severely congested; on communities and neighborhoods that have been in existence for many decades; and on the region's fragile natural environment. **EXHIBITS 4.1, 4.2, and 4.3** show the geographical distribution of the region's future growth in 2035.

Addressing these challenges successfully will require a major effort and coordination by the region's people, its institutions, and its public agencies. These "regional players" will have to agree on a common vision for the future of the region—and then work together to make that vision a reality. With such effort, Southern California will be able to accommodate additional growth and still create an improved quality of life, a resilient economy, and a healthy natural environment.

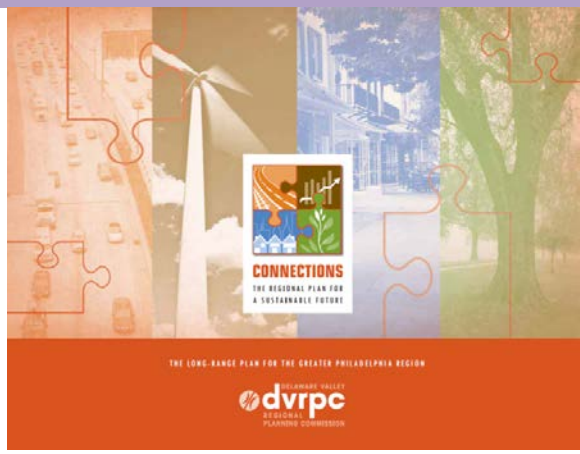
Since 2000, SCAG has worked actively with the people and institutions of Southern California to create a dynamic regional growth vision based on the following principles: *mobility, economy and sustainability*. Charged by federal law with preparing a Regional Transportation Plan every four years, SCAG has traditionally focused most on the mobility aspects of the region's growth. Under state law, SCAG is also charged with working with its member local governments on planning for an adequate regional housing supply.

Figure 4-6: Effective Photograph Incorporation

Graphics

Delaware Valley Regional Planning Commission

The Delaware Valley Regional Planning Commission's (DVRPC) 2035 LRTP, *Connections: The Regional Plan for a Sustainable Future* hosts a puzzle-piece graphical theme on the front cover that continues throughout the document. This concept provides the reader with an initial understanding of how the LRTP "pieces" together several components to create a regional transportation plan. DVRPC's LRTP exhibits a variety of graphics that give the document a user-friendly appearance while uniquely and effectively providing information to its readers.



Appearance of General Layout

The DVRPC's LRTP has a unique landscape format, with a standard two-column layout. The fonts and colors exhibit slightly muted values and are very clear and crisp, allowing users to easily read the document with little eye strain. One of the notable aspects of this LRTP's layout is the effective use of whitespace. The wide margin at both the top and bottom of the page prevents text from overwhelming the page but provides enough text that the pages do not appear empty.

While the format is rather basic, the LRTP incorporates details that give the document a look of refinement. Examples of these finer detailed design elements found throughout the document include, small puzzle pieces alluding to the *Connections* theme that are used to house pagination, fine gray contour lines that are utilized to separate text columns, and strategically colored bullets to distinguish essential points. These characteristics contribute to the document's appearance.

Other features of note in the overall layout include graphics embedded within the text, as well as the use of margins for graphics and text boxes that highlight areas of focus. Examples of these layout features are provided in **Figure 4-7** below.

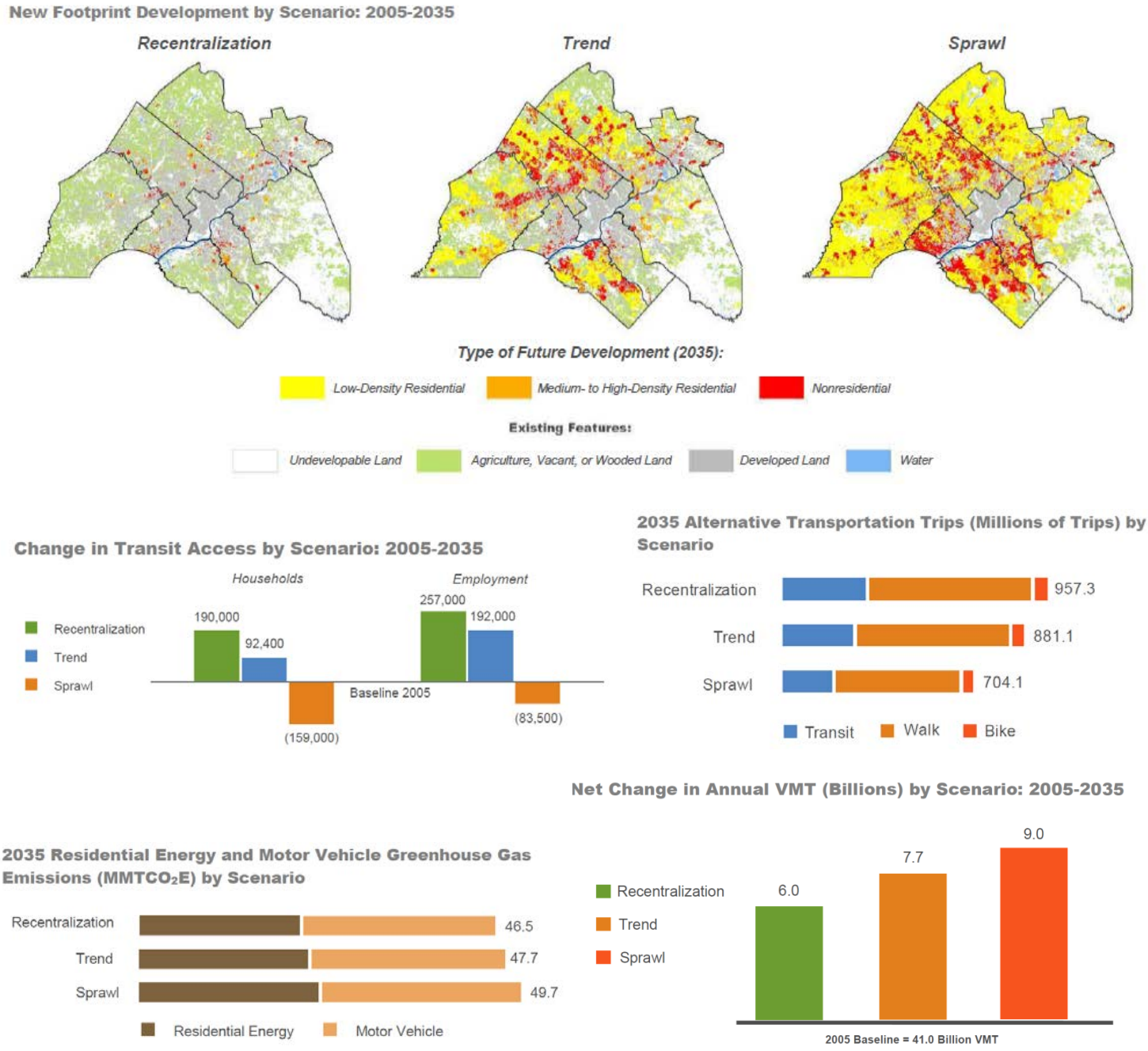
Figure 4-7: Example DVRPC Layout Designs

Graphics

Enhancement of Content

The DVRPC's LRTP provides an exceptional example of concept visualization. Chapter 3 of the document specifically exemplifies how elements like performance measures can be illustrated while using minimal language. In Chapter 3 of the LRTP, three scenarios are presented, each representing a different growth pattern for 2035: recentralization, trend, and sprawl. Various transportation and socioeconomic impacts are investigated as a result of these trends and illustrated in charts, maps, and tables throughout the chapter to contrast the scenarios. See **Figure 4-8** for example performance measure graphics.

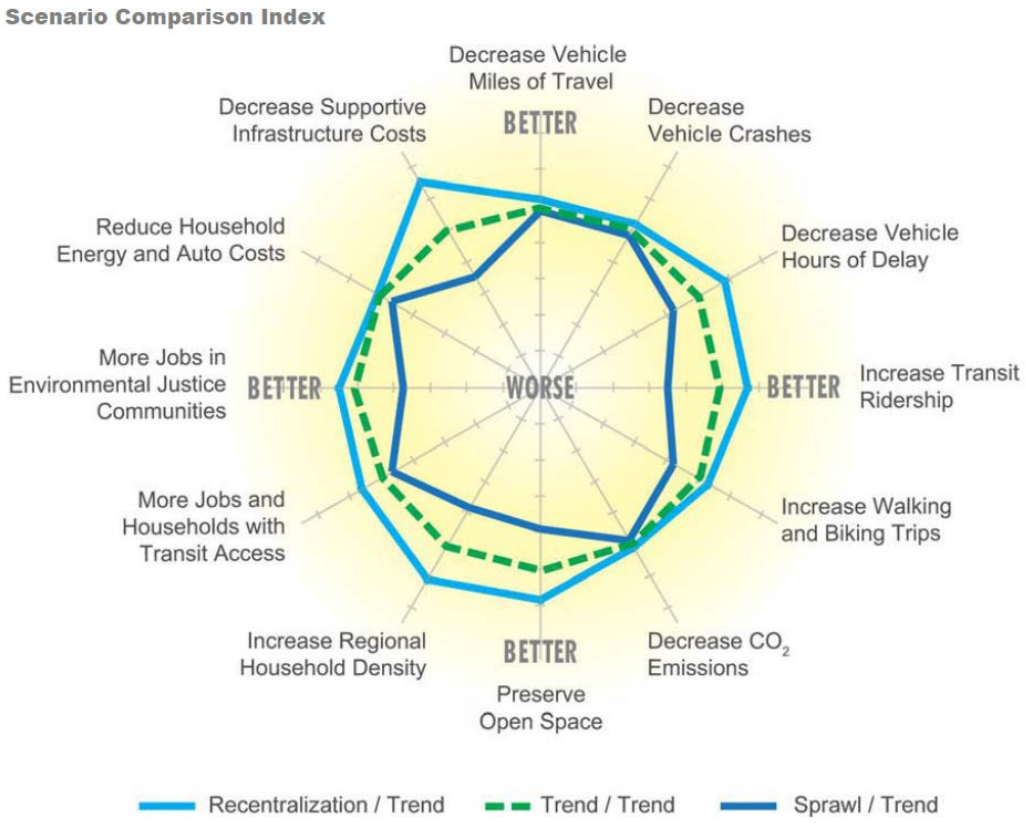
Figure 4-8: DVRPC Performance Measure Graphics

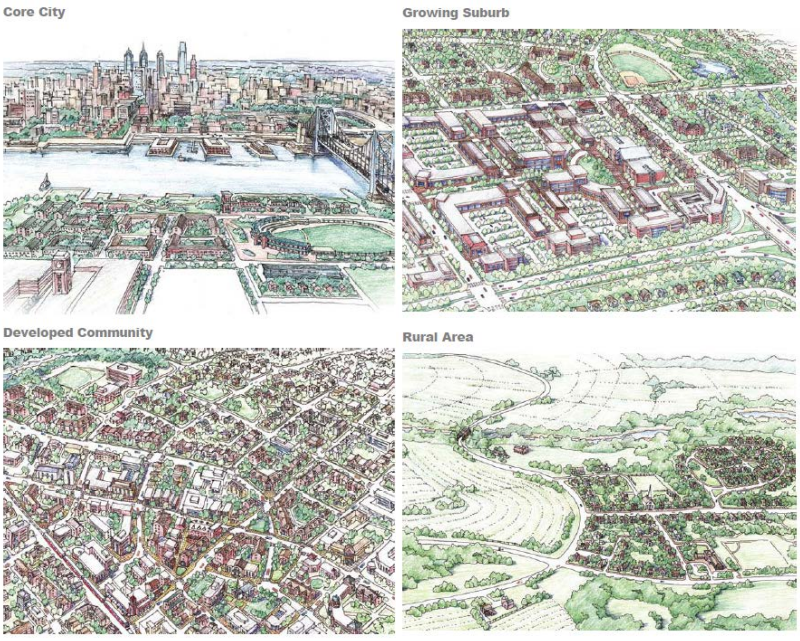


Graphics

While each of the individual graphics in **Figure 4-8** are helpful in demonstrating which scenarios are preferable with regard to each performance measure, one innovative graphic that stands out for its nonverbal communicative capabilities is the Scenario Comparison Index shown in **Figure 4-9**. This chart, known as a "radar" or "spider" chart, quantifies the values for each performance measure by scenario and plots them on twelve axes configured in a circular shape with increased performance measure values spanning outward from the center. Each of the three scenarios is assigned a line color and plotted on each performance measure's respective axis to illustrate each scenarios overall performance relative to each individual performance measure.

Figure 4-9: DVRPC Scenario Comparison Index Graphic





In addition to graphics that illustrate data, the DVRPC's LRTP includes graphics that define concepts through artist renderings. For example, **Figure 4-10** depicts the variation in development patterns. Inclusion of images like those at left can be more effective and beneficial to the reader than a literal explanation of the variation in these development patterns. It is important to recognize instances within the narrative explanation where words can be substituted with clarifying images.

Figure 4-10: Development Pattern Illustration

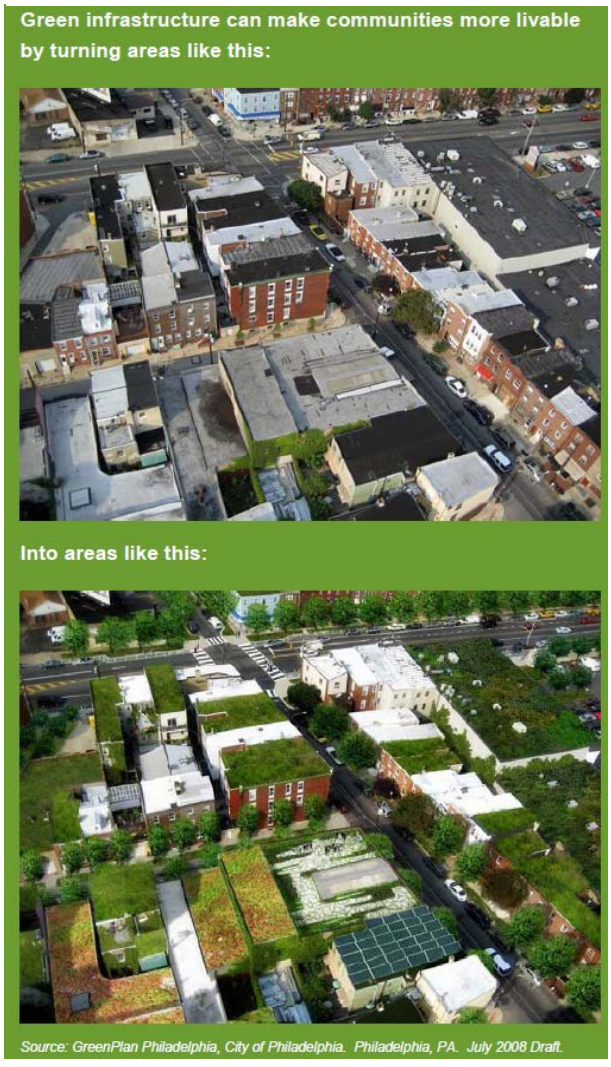
Graphics

Effectiveness of Images & Illustrations

The DVRPC's LRTP provides an excellent example of how graphics can be used for many purposes in addition to quantified comparisons of data or scenarios. It facilitates the use of images to link planning concepts discussed in the LRTP to actual places, people, and facilities within the community. The DVRPC accomplishes this by using pictures of the greater Philadelphia area to provide examples of local airports, investment corridors, energy sources, and local food sources, as illustrated in **Figure 4-11**. These familiar sites have the ability to connect the reader to the document, bringing awareness to the fact that the principles discussed will be applied within their community.

Figure 4-11: Images from DVRPC LRTP of the Greater Philadelphia Area

Figure 4-12: Use of Renderings for Community Visualization



Digitally modified images can also be used to illustrate planning concepts within a familiar landscape. For example, the DVRPC's LRTP uses renderings produced in the *GreenPlan Philadelphia* document to provide members of the community with an image of what an intersection in an existing neighborhood would look if a green roof policy was implemented in that area. Visualizations like the *GreenPlan* images provided in **Figure 4-12** are a popular mechanism for public outreach campaigns due to their visual appeal.

Lessons Learned

Layout simplicity, innovative data illustration, and incorporation of hometown imagery are some of the greatest aspects of the DVRPC LRTP's graphic presentation. Simple fonts, colors, and appropriate placement of pictures and whitespace allow readers to view the document with little distraction and are easy on the eyes. The use of a radar chart to create a scenario planning index offers an original and effective technique to illustrate the pros and cons of planning alternatives. The use of familiar images to show both existing and potential future conditions helps to connect examples to the community and encourage public involvement in the planning process. These elements provided by the DVRPC are excellent examples of LRTP best practices.

Graphics

Indian Nations Council of Governments

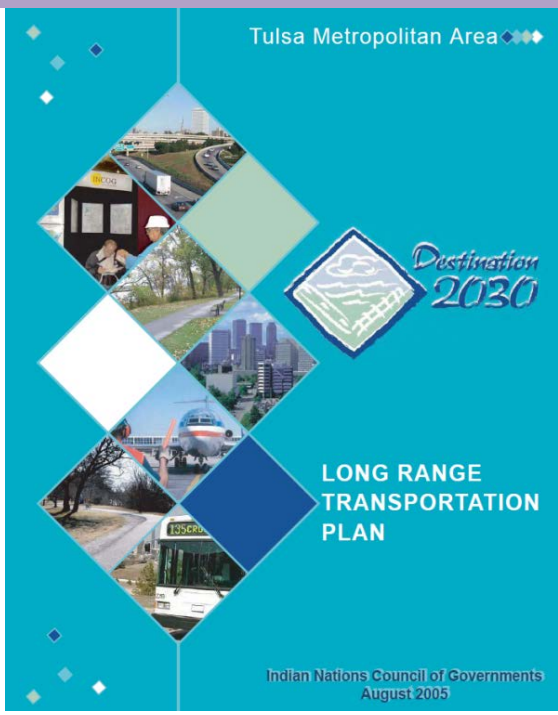
The Indian National Council of Governments' (INCOG) LTRP, *Destination 2030* was selected as a best practice example because of its effectively simple use of graphics to show both empirical and spatial data. This regional plan for the Tulsa area also uses graphic techniques to show textual information within the plan.

Appearance of General Layout

The color scheme for the INCOG plan is introduced on the cover, using a variety a blue, green, and white shades. This complementary color scheme remains consistent throughout the plan in its layout and graphics on each page. The layout also provides about an inch margin, accommodating plenty of white space, and uses clear fonts.

One unique characteristic of the plan is the placement of most its pictures in the center of the page. This technique allows each image to be the focal point of the page, bringing the reader's attention to the center of the image. This technique subtly uses photographic imagery to break up large paragraphs. Two examples of the centered image pages in the INCOG LRTP are provided in **Figure 4-13**.

Additionally, the LRTP uses text boxes as a way of illustrating specific pieces of information in a prominent location. Using text boxes consistent with the color scheme allows specific areas to be highlighted. For example, the goals and objectives, the mission statement, a list of facilities and safety components, and many other issues and lists are provided in this format. The text boxes not only break up the paragraphs in the plan through the incorporation of color, but they also emphasize each topic in the box, bringing issues to the forefront of the page. **Figure 4-14** provides an example text box from the report.




PUBLIC TRANSPORTATION

EXISTING PUBLIC TRANSPORTATION SERVICES

METROPOLITAN TULSA TRANSIT AUTHORITY

Transit Services

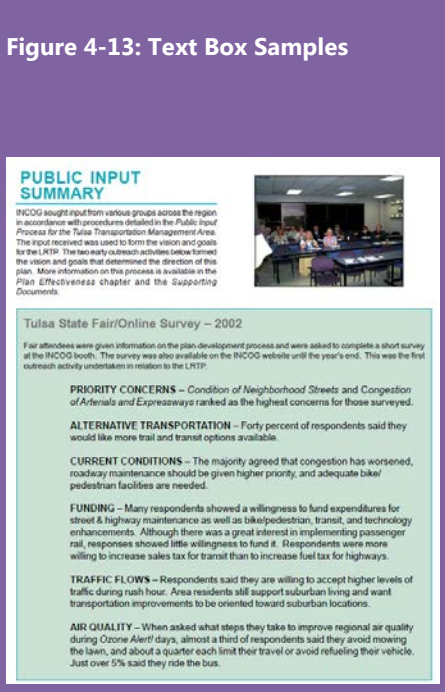

PLAN EFFECTIVENESS

MINORITY AND LOW-INCOME

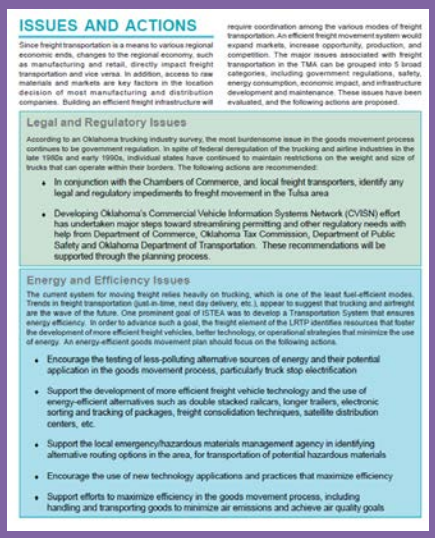
ELDERLY AND YOUTH

PAGE 107

Figure 4-14: Pages with Central Graphics


PUBLIC INPUT SUMMARY

Tulsa State Fair/Online Survey – 2002


ISSUES AND ACTIONS

Legal and Regulatory Issues

Energy and Efficiency Issues

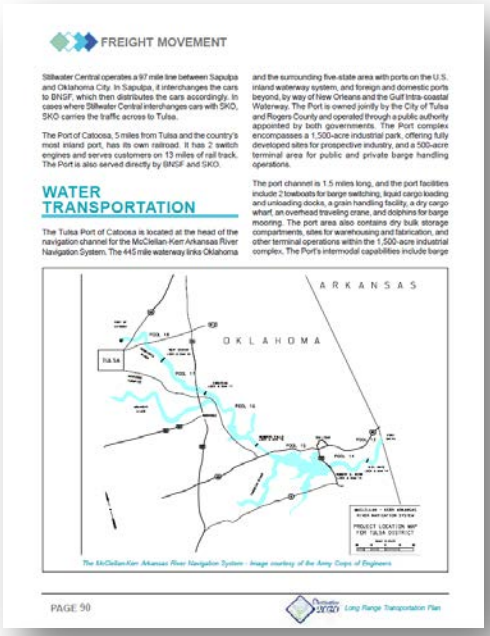
Figure 4-13: Text Box Samples

Graphics

Enhancement of Content

One of the greatest qualities of the INCOG's LRTP is its consistent use of graphics to display both empirical and spatial information. For example, the LRTP contains 27 maps within the text to create visual references for elements in the plan. The use of maps gives the reader a sense of orientation with regard to demographics and system wide information. A list for reference of the various maps included in the LRPT is provided below. **Figure 4-15** shows how the maps were interspersed throughout the document.

- Tulsa Transportation Management Area
- Tulsa TMA and MSA Location
- 2030 Population per Square Mile
- 2030 Employment per Square Mile
- 2030 Roadways Plan
- Tulsa TMA Interstate, NHS, and other State and Federal Highways
- Congestion Management System
- 2030 Public Transportation Plan
- Existing Public Transportation System
- 2030 Bicycle/Pedestrian Plan
- Existing and Planned Regional Bikeways
- Existing and Planned Regional Trails
- Existing Regional Trails and Bikeways
- 2030 Freight Movement Plan
- McClellan- Kerr Arkansas River Navigation System
- Freight By Highway: 2030 Forecast
- Freight By Rail: 2030 Forecast
- Socially Sensitive Areas
- Social Environment and Planned Roadways
- Social Environment and Planned Public Transportation
- Social Environment and Planned Trails & Bikeways
- Environmentally Sensitive Areas
- Natural Environment and Planned Roadways
- Natural Environment and Planned Public Transportation
- Natural Environment and Planned Trails and Bikeways
- Corridor Study Areas
- 2030 Freight Movement Plan



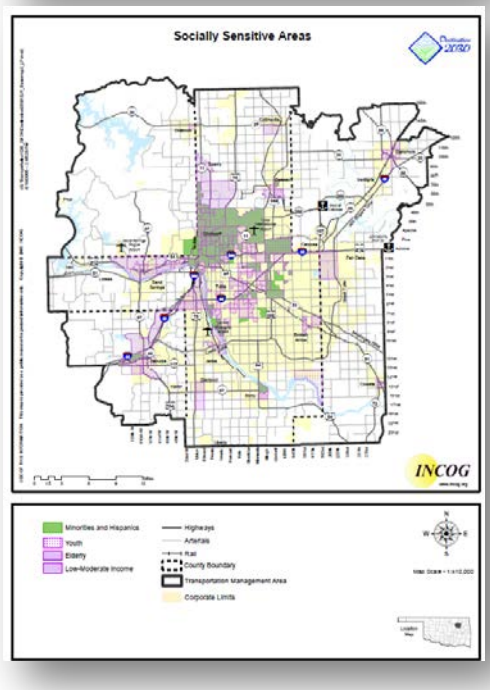


Figure 4-15: Sample Maps

In addition to the use of maps to provide spatial reference, there are also many graphs, charts, and tables that support the quantitative information that substantiates the plan. These graphics utilize the same color scheme as the rest of the document and are an excellent method of showing information in an eye-catching manner. INCOG was creative in developing these graphics, as shown in **Figure 4-16**, incorporating both graphics and empirical information together to add a touch of character to the report.

Graphics

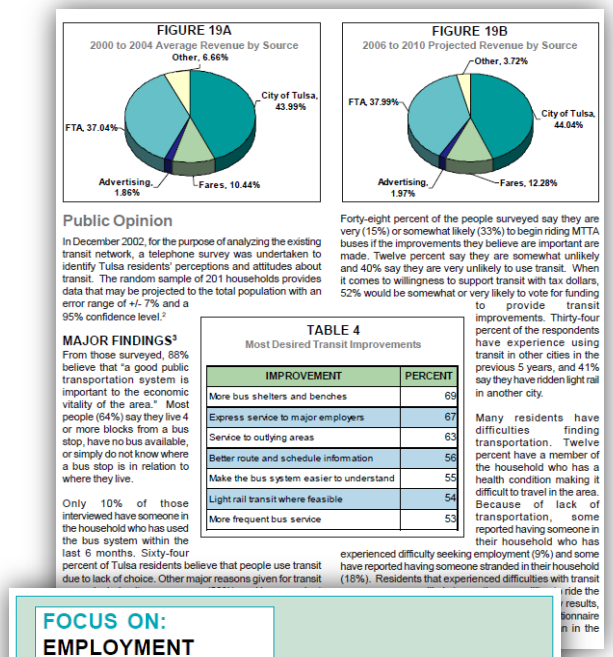


Figure 4-16: Data-Related Graphics

Incorporating creativity in the graphics and using colorful imagery facilities a user-friendly presentation style of the LRTP's more technically based information. INCOG does a good job of communicating this to the reader.

Effectiveness of Images & Illustrations

The graphics within the plan are very effective in both eliminating blocks of text and using images to inform the reader rather than solely relying on text. As mentioned earlier, text boxes are helpful in their ability to highlight information and to draw the reader's attention to specific points within the plan.

Other graphics, like the photos shown in **Figure 4-17** are effective uses of imagery, as they include captions that show at which particular event the photographs were taken. Many of the images are from public involvement events, which also demonstrate the commitment to responding to the needs of the community and incorporating the public into the planning process.

Lessons Learned

The INCOG LRTP's graphical strengths lie in its ability to incorporate maps into the document body to provide spatial reference and effectively illustrate elements of the plan as they pertain to the transportation system. Additionally, the creative use of graphics to display quantitative information is helpful in supporting the various projects suggested for the region in the plan. The incorporation of captions and local images also contributes to making a regionally relevant plan.

During the draft review meeting in Jenks, an area landowner discusses aspects of the plan with an INCOG staff member.

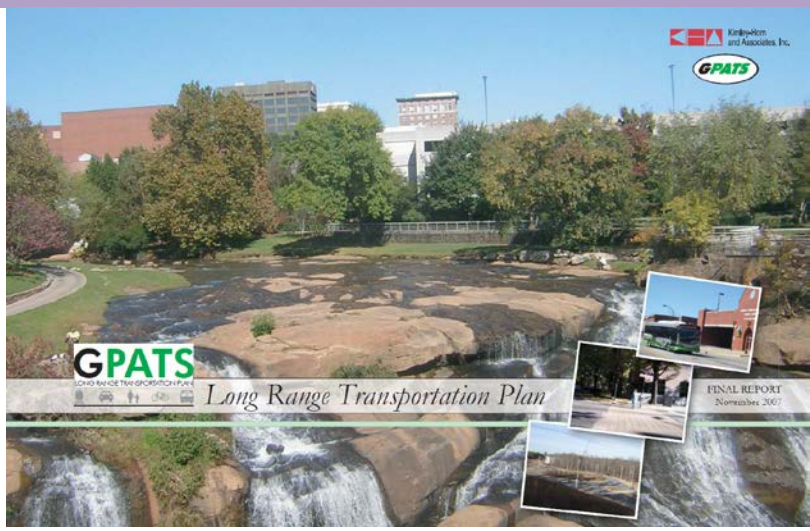
Citizens provide feedback on trails and bikeways in the Tulsa TMA during an open house meeting at Hicks Park.

Figure 4-17: Captioning of Photographs at Local Events

Graphics

Greenville-Pickens Area Transportation Study

The Greenville-Pickens Area Transportation Study (GPATS) is an excellent example of a graphically enhanced LRTP. The plan's cover shows the river in Downtown Greenville, illustrating from the very beginning a commitment to the local landscape.



General Layout

The GPATS LRTP is presented in a landscape layout and is slightly more wide than a typical document, allowing more space within the general layout for text, pictures, and whitespace. The document uses a professional appearing font and applies a green theme which is appropriate to the name of the major city within the region: Greenville, SC.

The extra wide layout is also beneficial to the presentation of the plan in that it allows for larger, more detailed maps, as illustrated in **Figure 4-18**. The wide layout also creates openings for adding text in margins. **Figure 4-18** also shows a textbox that was used to define key terminology within the 'Financial Plan' section to prevent the reader from having to look up technical terms in a separate document. While it may create problems in the actual printing of the document, it can be viewed as a PDF with ease.

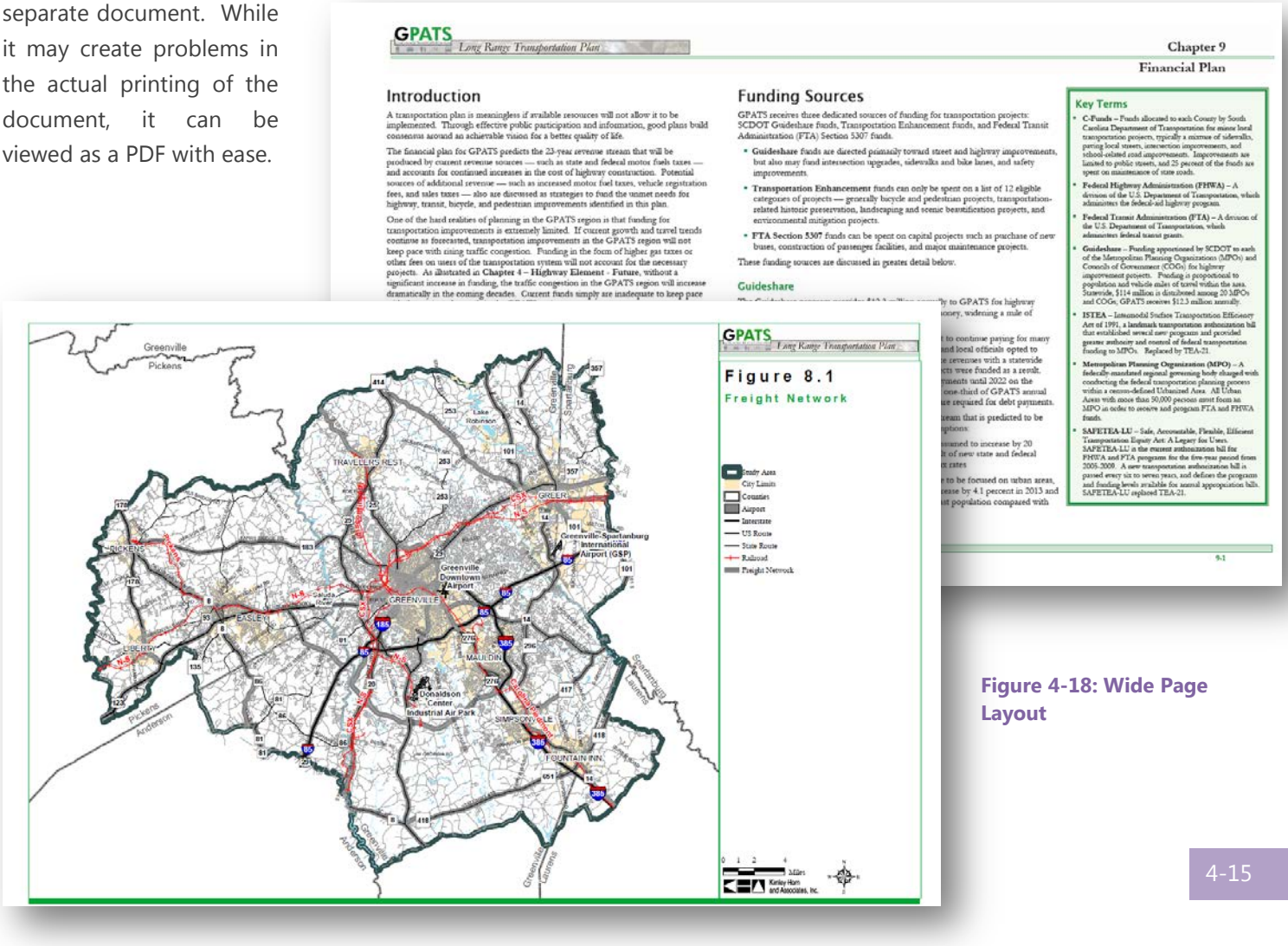


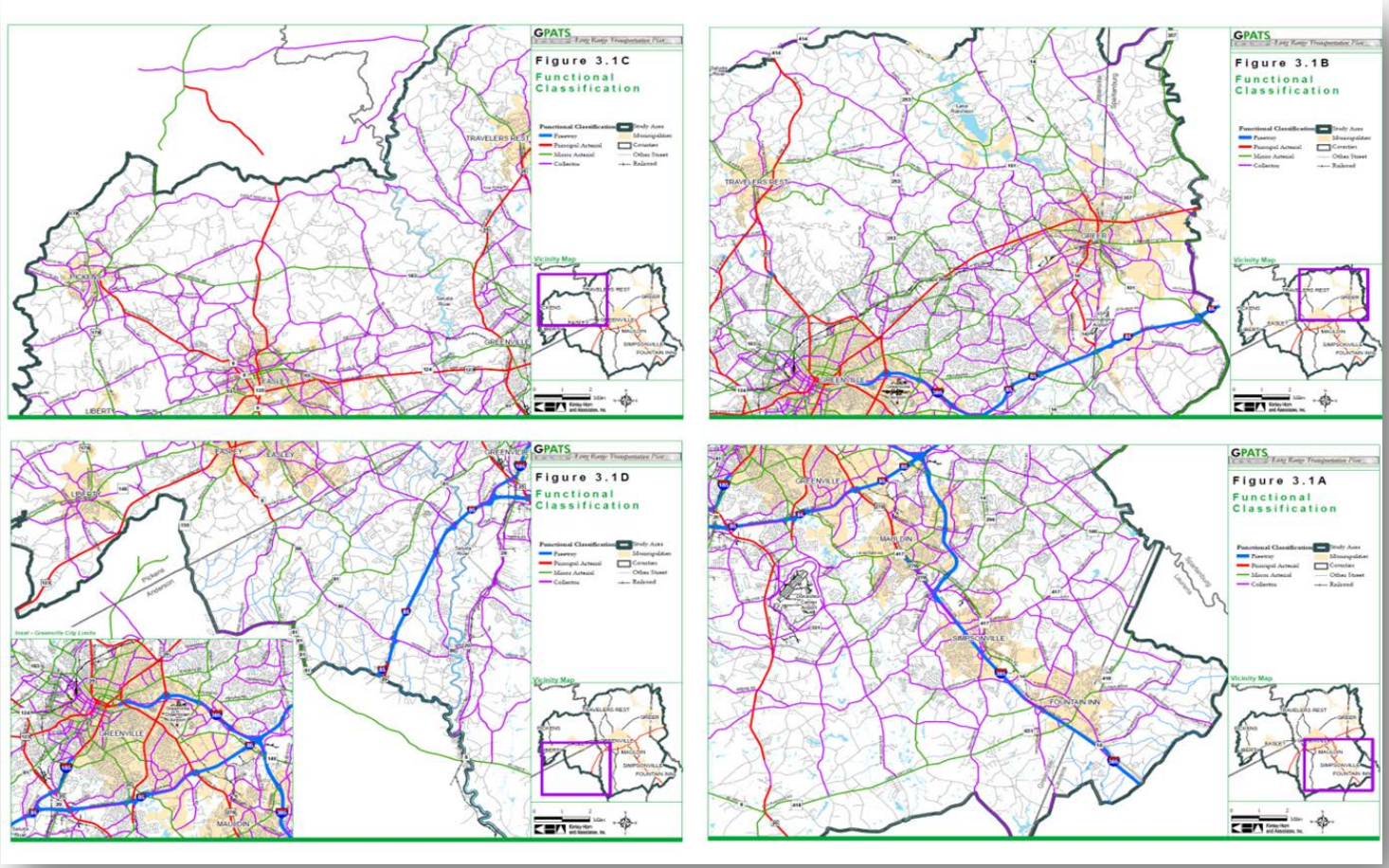
Figure 4-18: Wide Page Layout

Graphics

Enhancement of Content

For mapping purposes, the region is divided into four areas: northwest, northeast, southwest, and southeast. Because the region is fairly large, these sections were delinated so the maps could zoom into the respective area to provide a detailed view of the sub region rather than a larger map on which the reader may not be able to view specific facilities or characteristics. This methodology provides a consistent method of showing the regional transportation system on a scale that can be easily viewed. **Figure 4-19** illustrates the four maps that together comprise a regional functional classficiation map.

Figure 4-19: Four Part Mapping Technique



The GPATS LRTP also provides a number of images that describe both existing and future conditions on selected roadways. The section entitled 'Corridors Operation' dedicates a page to each corridor, using photographs taken along the roadway to illustrate where improvements are needed. These photos are specifically labeled so the reader knows the exact location that is depicted and its identifying characteristics. **Figure 4-20** includes examples of these corridor photographs and how they are presented in the document. In addition to the existing conditions maps, there are also photographs and renderings interspersed throughout the LRTP that depict both before and after images. These images aid in the visualization of the plan by introducing the improvements within the context of the actual facilities on which they will be implemented.

Graphics

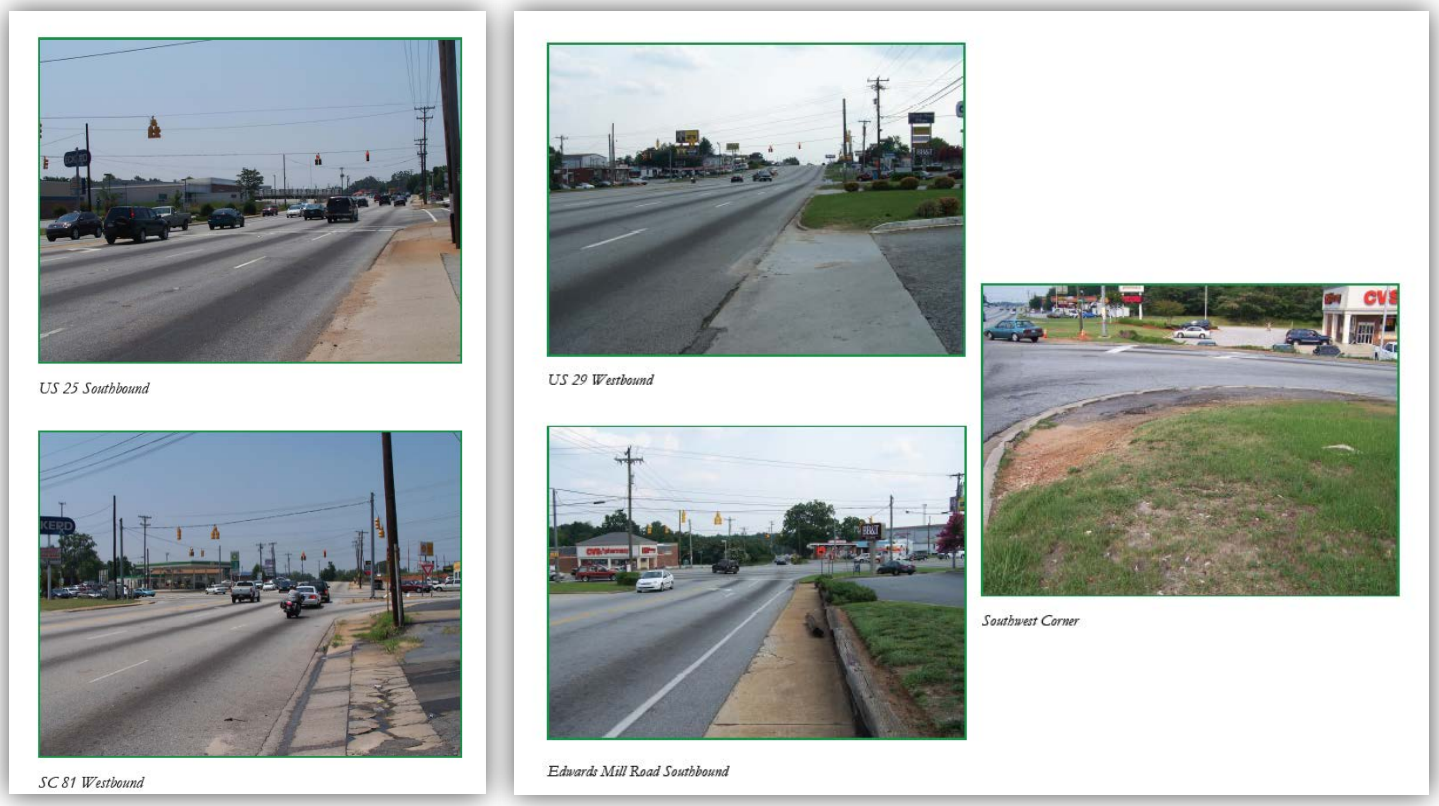
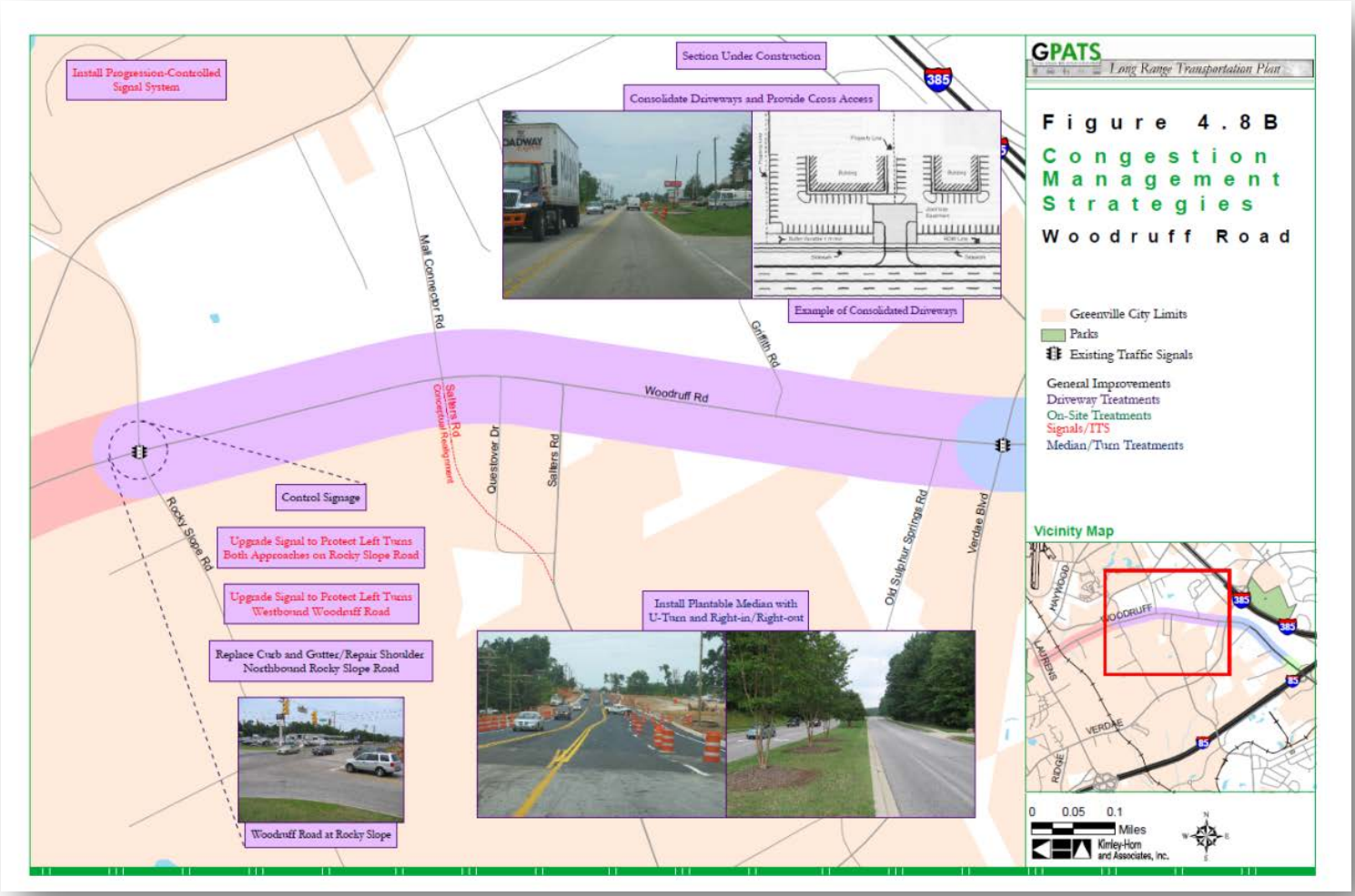


Figure 4-20: Current Photos and Future Renderings

The use of photographs, both for exiting conditions and needed improvements helps to relate the elements of the plan to the people that use the facilities regularly. In this sense, images like those above are helpful in the development of a user-friendly LRTP. Other maps included in the GPATS LRTP take the concept of using photos one step further by incoporating photos into maps of proposed projects. These maps are of far greater detail than the regional maps discussed above. **Figure 4-21** shows the congestion management strategies proposed for a road within the region. Not only does the map include two dimensional spatial information, it uses text boxes, buffers, and specific images that extend the detail of the maps to provide a much more visual concept of the landscape.

Graphics

Figure 4-21: Maps Animated by Text and Photos



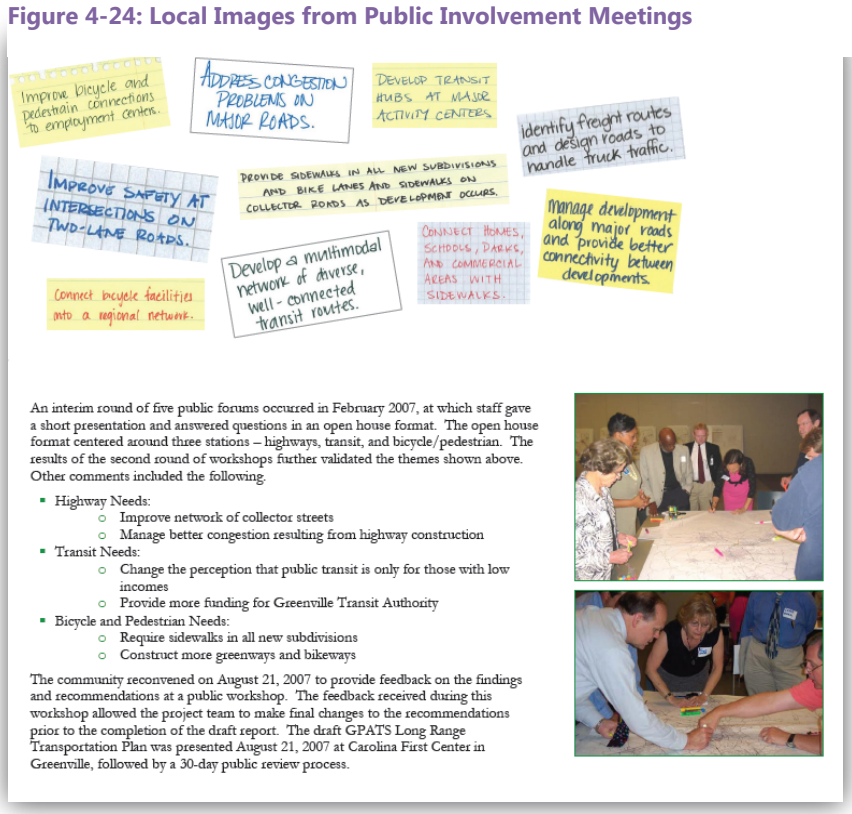
Effectiveness of Images & Illustrations

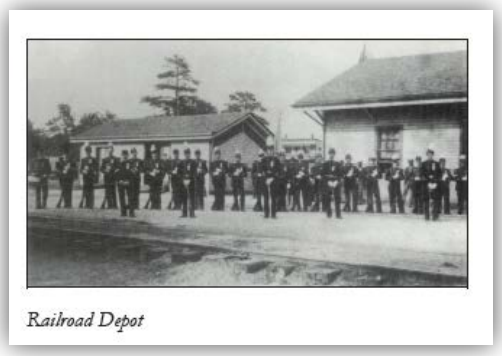
The images used in the GPATS LRTP provide a sense of locality. The document includes various photographs taken throughout the Greenville-Pickens region that add both color and local flavor to the plan. **Figures 4-22** and **4-23** shows images scattered throughout the plan that illustrate areas and corridors of significance in the area, public involvement forums and input. **Figure 4-24** shows historic images that illustrate how the area has changed over long periods of time. These images, while all very different topically, contribute to giving the plan a small-scale, personalized focus.

Figure 4-22: Incorporation of Local Photographs

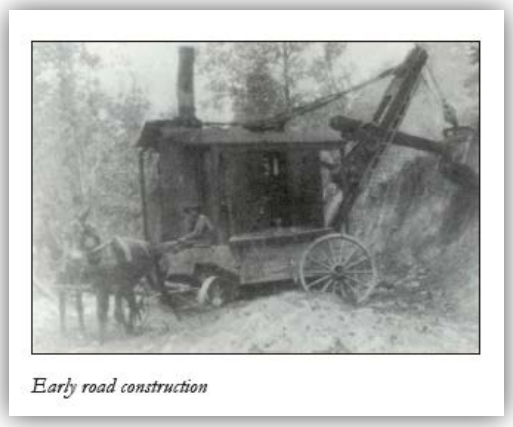
Graphics

Figure 4-24: Local Images from Public Involvement Meetings





Railroad Depot

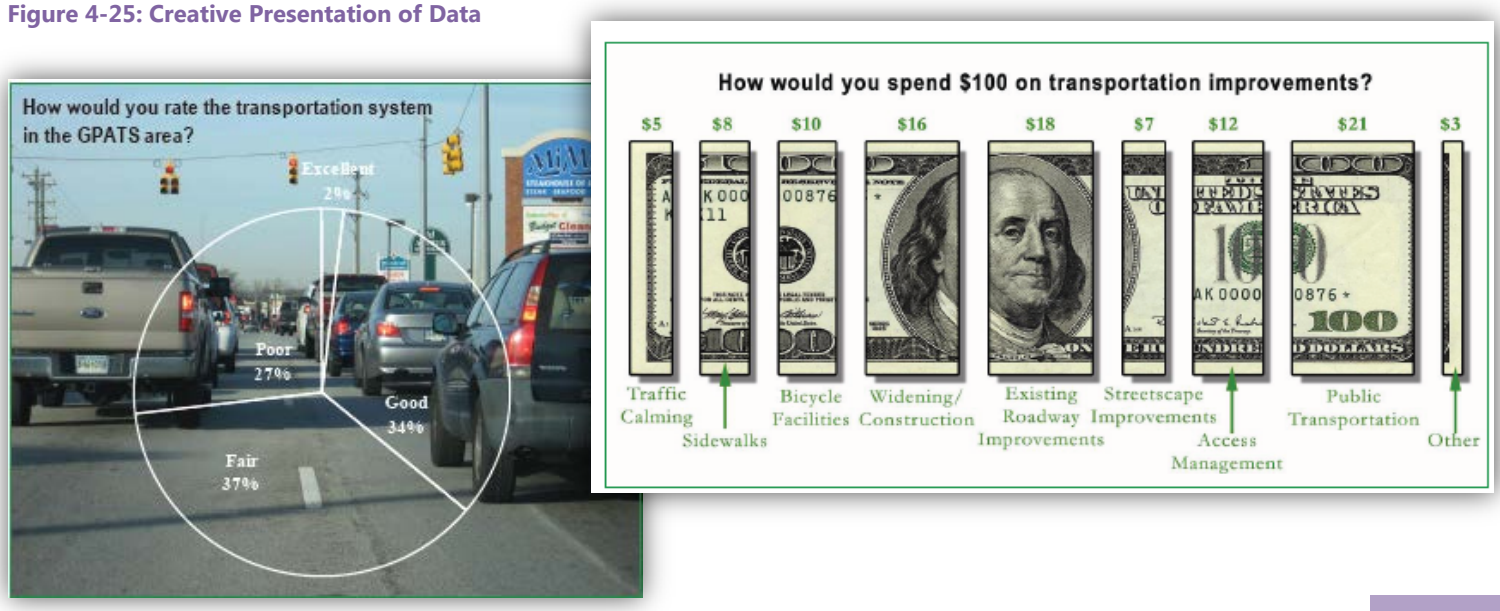


Early road construction

Figure 4-23: Historic Local Images

The images provided in the plan are also highly explanatory. For example, survey results are depicted in artistic ways. **Figure 4-25** shows the transportation system ratings with an illustration of vehicles on a congested local road, as about 64 percent of the respondents reported that the system was either "Poor" or "Fair." Also, the question of how the respondents would allocate transportation funding is illustrated in terms of portions of a $100 bill rather than simply using a generic chart to show this information.

Figure 4-25: Creative Presentation of Data

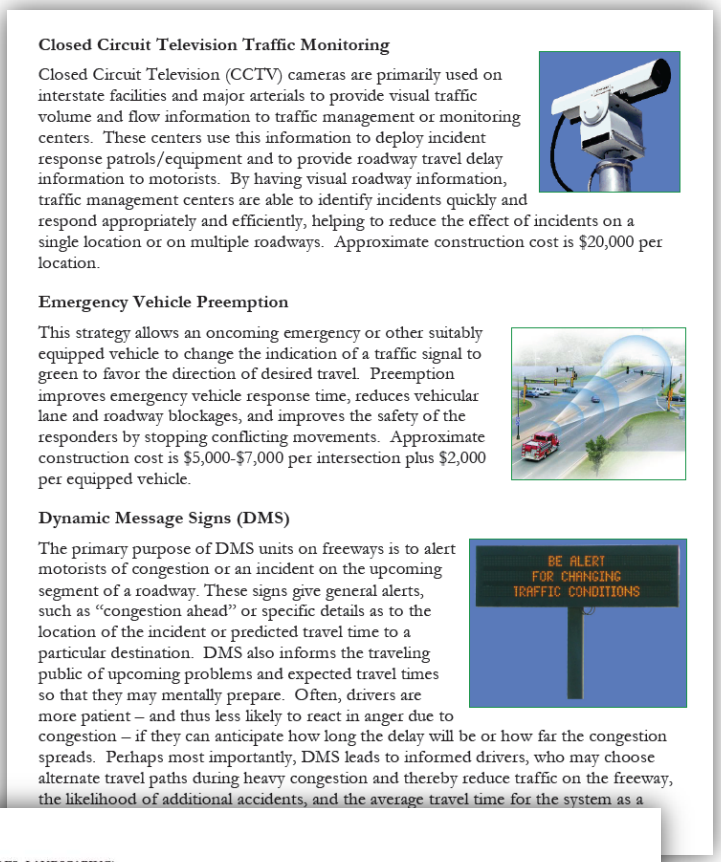


Graphics

GPATS uses images to further explain planning elements that are described in the text of the document. **Figure 4-26** shows paragraphs and how they are expanded upon through the inclusion of illustrative graphics. In these examples, concepts are supplemented through the inclusion of graphics that help the reader understand new concepts that will be incorporated in the implementation of the LRTP. These images enhance the content of the LRTP through additional visualization.

Lessons Learned

GPATS provides a good example of a clean, spacious and professional looking document. The maps and images used to illustrate regional corridors provide a frame of reference for readers, especially when these two elements are merged. The plan boasts a localized theme that stresses the significance of the regional plan and incorporates a variety of pictures that contribute to the plan and make the document more visually appealing. Finally, images are also used to demonstrate facts and concepts through an effective use of combined text and graphics.



Closed Circuit Television Traffic Monitoring

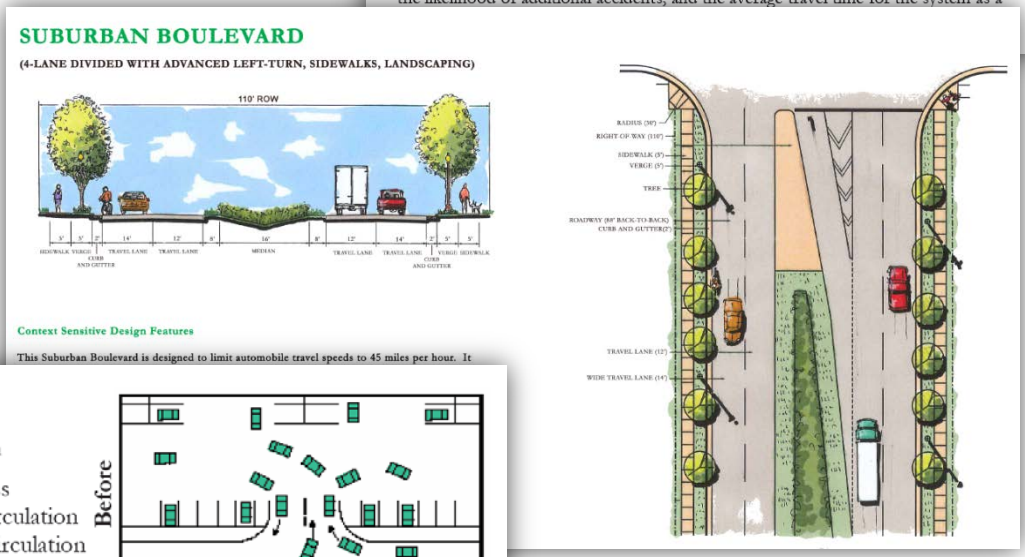
Closed Circuit Television (CCTV) cameras are primarily used on interstate facilities and major arterials to provide visual traffic volume and flow information to traffic management or monitoring centers. These centers use this information to deploy incident response patrols/equipment and to provide roadway travel delay information to motorists. By having visual roadway information, traffic management centers are able to identify incidents quickly and respond appropriately and efficiently, helping to reduce the effect of incidents on a single location or on multiple roadways. Approximate construction cost is $20,000 per location.

Emergency Vehicle Preemption

This strategy allows an oncoming emergency or other suitably equipped vehicle to change the indication of a traffic signal to green to favor the direction of desired travel. Preemption improves emergency vehicle response time, reduces vehicular lane and roadway blockages, and improves the safety of the responders by stopping conflicting movements. Approximate construction cost is $5,000-$7,000 per intersection plus $2,000 per equipped vehicle.

Dynamic Message Signs (DMS)

The primary purpose of DMS units on freeways is to alert motorists of congestion or an incident on the upcoming segment of a roadway. These signs give general alerts, such as "congestion ahead" or specific details as to the location of the incident or predicted travel time to a particular destination. DMS also informs the traveling public of upcoming problems and expected travel times so that they may mentally prepare. Often, drivers are more patient – and thus less likely to react in anger due to congestion – if they can anticipate how long the delay will be or how far the congestion spreads. Perhaps most importantly, DMS leads to informed drivers, who may choose alternate travel paths during heavy congestion and thereby reduce traffic on the freeway, the likelihood of additional accidents, and the average travel time for the system as a

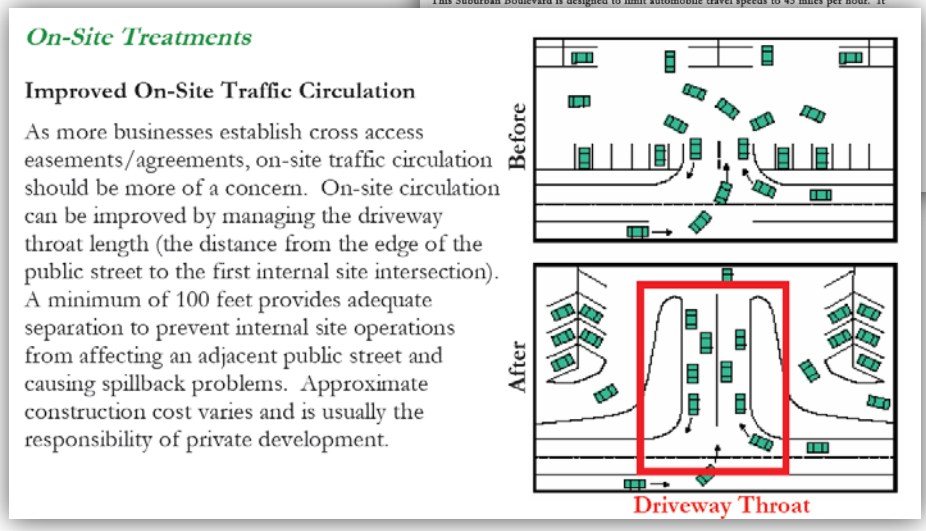


SUBURBAN BOULEVARD

(4-LANE DIVIDED WITH ADVANCED LEFT-TURN, SIDEWALKS, LANDSCAPING)

Context Sensitive Design Features

This Suburban Boulevard is designed to limit automobile travel speeds to 45 miles per hour. It



On-Site Treatments

Improved On-Site Traffic Circulation

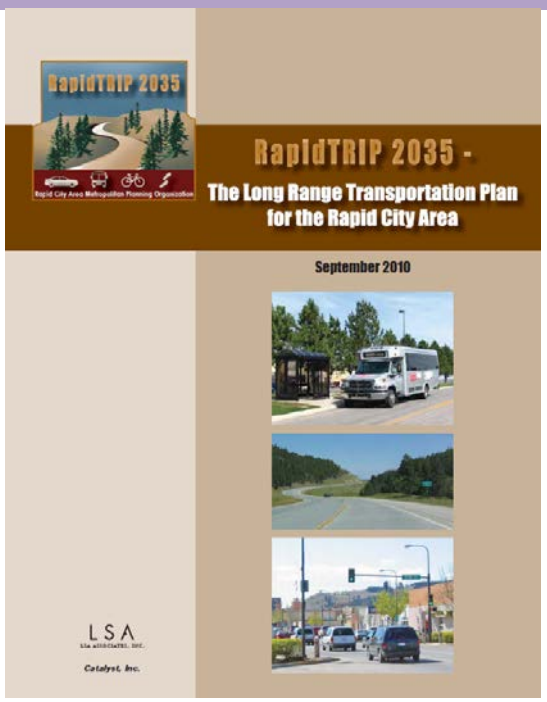
As more businesses establish cross access easements/agreements, on-site traffic circulation should be more of a concern. On-site circulation can be improved by managing the driveway throat length (the distance from the edge of the public street to the first internal site intersection). A minimum of 100 feet provides adequate separation to prevent internal site operations from affecting an adjacent public street and causing spillback problems. Approximate construction cost varies and is usually the responsibility of private development.

Figure 4-26: Explanatory Graphics

Graphics

Rapid City Area MPO

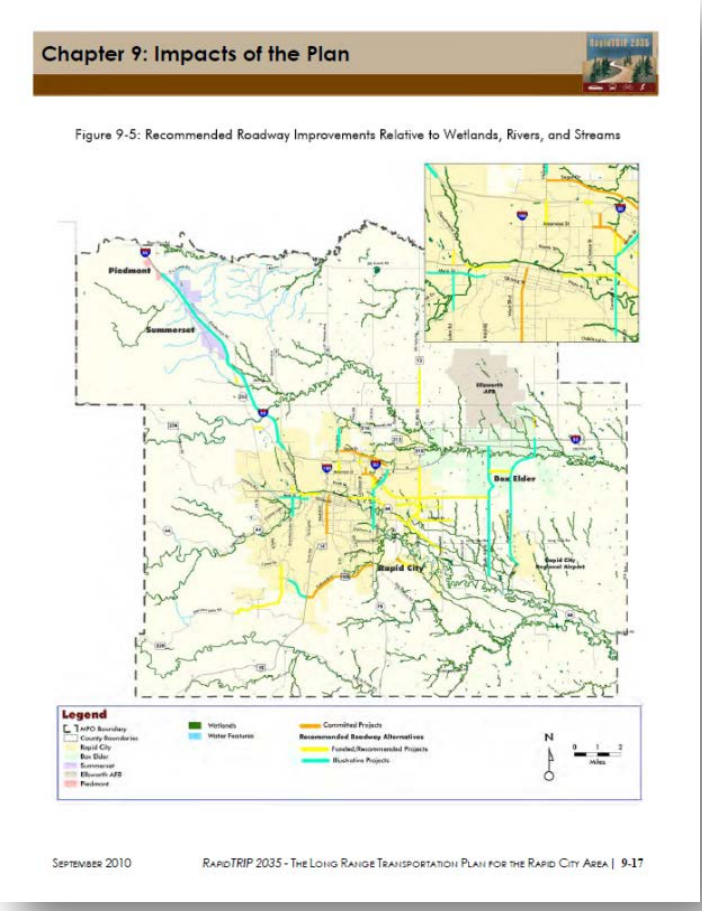
The Rapid City Area MPO's plan, *RapidTRIP 2035*, has a simple cover that shows various elements of significance in the LRTP, including a public transit vehicle, environmental issues, and a suburban area. The LRTP exemplifies best practices in graphics through its eye-catching methods of illustrating the results of its data analysis.

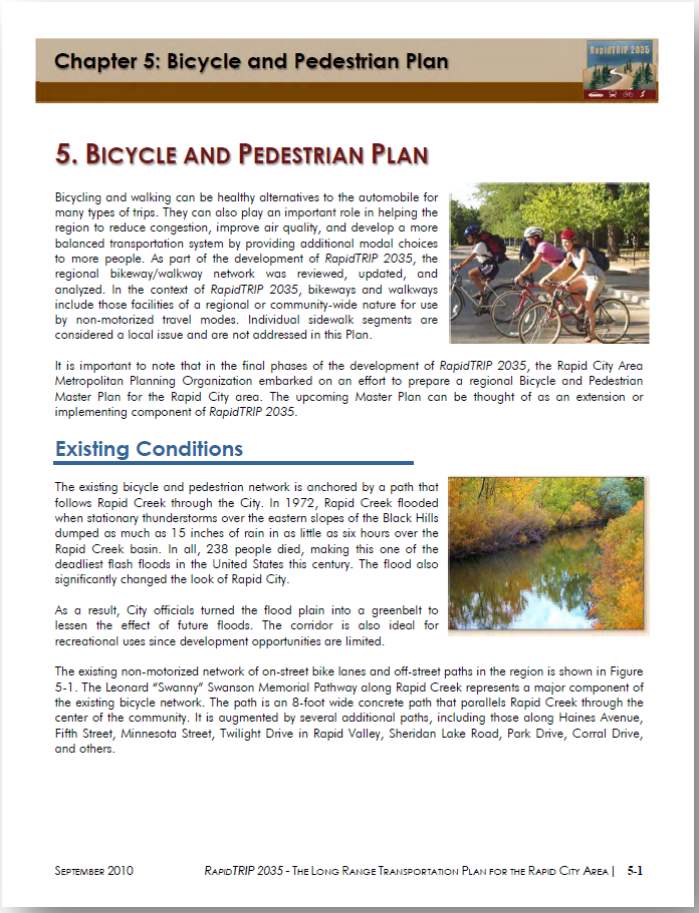


General Layout

The document is spacious and facilitates a clean presentation of the plan. It uses a clean font and has prominent headers and footers. The document does not have a distinct color scheme aside from these headers and footers, using a variety of colors within its graphics. Various pictures are provided throughout the plan, as illustrated in the example page in **Figure 4-27**. Maps are incorporated into the document by simply being embedded into the pages, using the same header and footer, also shown in **Figure 4-27**.

Figure 4-27: Layout of Rapid City Area LRTP



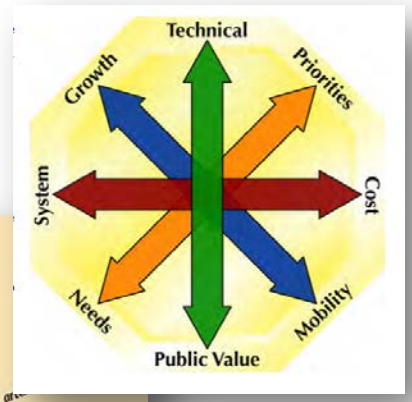


Graphics

Enhancement of Content

Charts, tables, and pictures characterize a large portion of the LRTP. These graphics describe concepts ranging from the ability of a project to meet SAFETEA-LU requirements to the ability of a roadway to address both access and mobility components, as shown in **Figure 4-28**.

The flow chart shown in **Figure 4-29** is used at the beginning of the LRTP to explain the overall planning process and provide the reader with a visual interpretation of the sequence of events. Other concepts like roadway level-of-service are also explained through graphics and dedicated space, as seen in **Figure 4-29**.



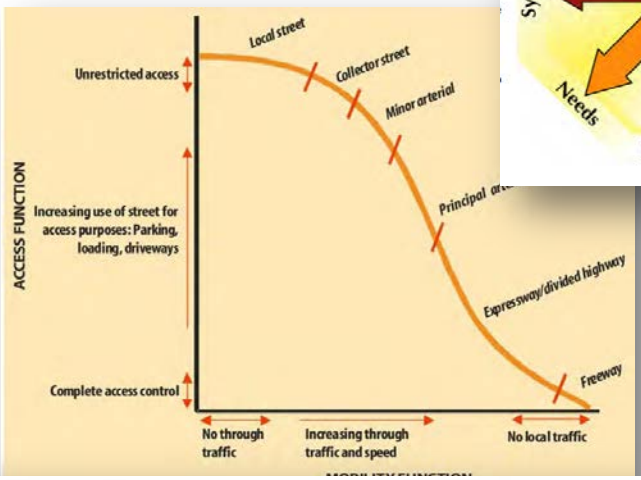
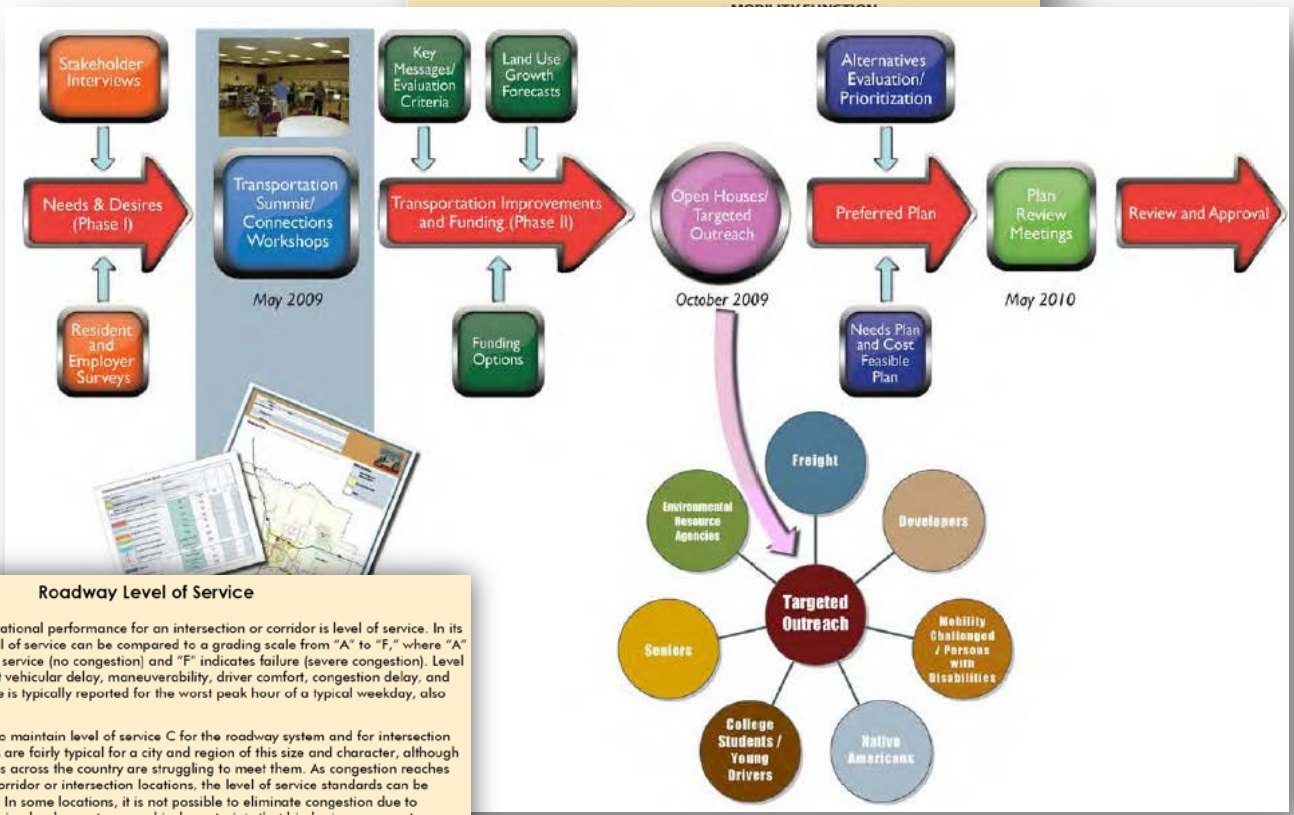
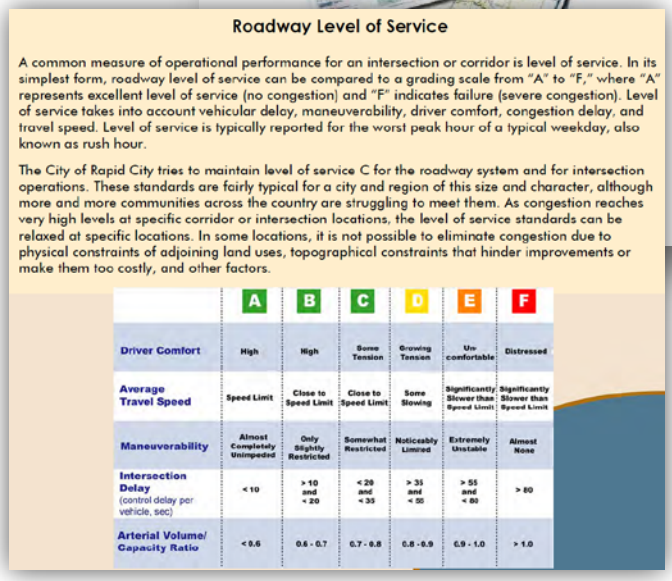


Figure 4-28: Graphics that Illustrate Concepts





Roadway Level of Service

A common measure of operational performance for an intersection or corridor is level of service. In its simplest form, roadway level of service can be compared to a grading scale from "A" to "F," where "A" represents excellent level of service (no congestion) and "F" indicates failure (severe congestion). Level of service takes into account vehicular delay, maneuverability, driver comfort, congestion delay, and travel speed. Level of service is typically reported for the worst peak hour of a typical weekday, also known as rush hour.

The City of Rapid City tries to maintain level of service C for the roadway system and for intersection operations. These standards are fairly typical for a city and region of this size and character, although more and more communities across the country are struggling to meet them. As congestion reaches very high levels at specific corridor or intersection locations, the level of service standards can be relaxed at specific locations. In some locations, it is not possible to eliminate congestion due to physical constraints of adjoining land uses, topographical constraints that hinder improvements or make them too costly, and other factors.

	A	B	C	D	E	F
Driver Comfort	High	High	Some Tension	Growing Tension	Uncomfortable	Distressed
Average Travel Speed	Speed Limit	Close to Speed Limit	Close to Speed Limit	Some Slowing	Significantly Slower than Speed Limit	Significantly Slower than Speed Limit
Maneuverability	Almost Completely Unimpeded	Only Slightly Restricted	Somewhat Restricted	Noticeably Limited	Extremely Unstable	Almost None
Intersection Delay (control delay per vehicle, sec)	< 10	> 10 and < 20	< 20 and < 35	> 35 and < 55	> 55 and < 80	> 80
Arterial Volume/ Capacity Ratio	< 0.6	0.6 - 0.7	0.7 - 0.8	0.8 - 0.9	0.9 - 1.0	> 1.0

Figure 4-29: Graphics and Tables that Enhance Content

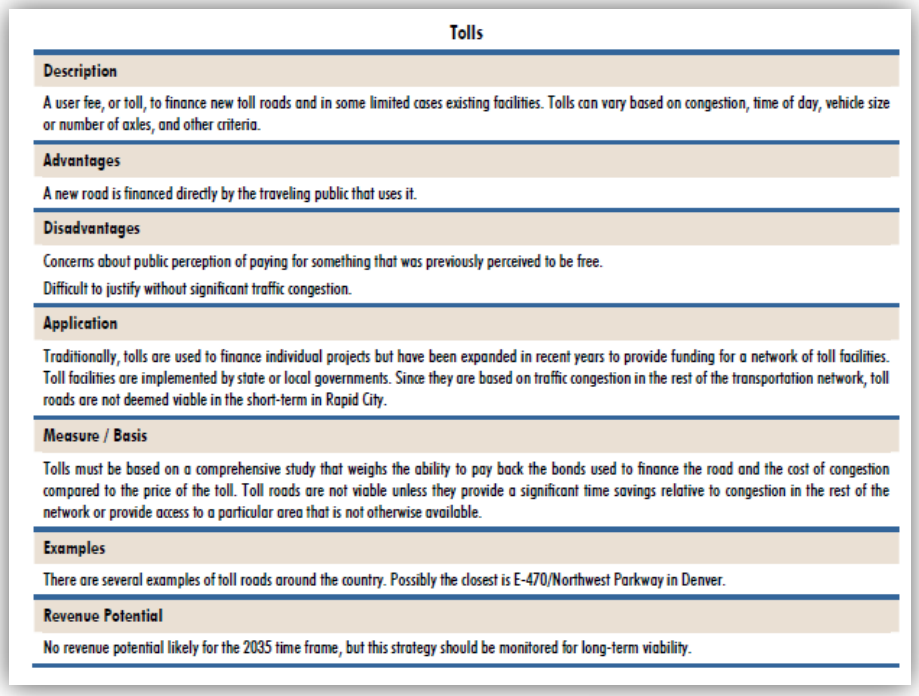
Graphics

Tables are used throughout the document to communicate a variety of information. One noteworthy table provided at the beginning of the LRTP is a matrix of the plan's evaluation criteria by roadway, transit, and non-motorized facilities as they relate to the SAFETEA-LU planning factors, LRTP goals and objectives, and key messages from public involvement efforts. This matrix helps to compare and highlight the major planning criteria based on federal, regional, and local benchmarks. This table is illustrated below in **Figure 4-30**.

		Roadway				Transit				Bicycle / Pedestrian			
		Efficiency	Effectiveness	Cost Effectiveness	Multi-Modal	Population and Employment Served	Served per Route Mile	Cost per Served	Connectivity	Continuity	Potential Use	Joint Construction	Safety
	SAFETEA-LU Planning Factors												
1	Support the ECONOMIC VITALITY of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.	●	●	●		●	●	●	●	●			
2	Increase the SAFETY of the transportation system for motorized and non-motorized users.				●	●	●					●	●
3	Increase the SECURITY of the transportation system for motorized and non-motorized users.												●
4	Increase the ACCESSIBILITY and MOBILITY of people and for freight.	●	●	●	●	●	●	●	●	●	●	●	
5	Protect and enhance the ENVIRONMENT, promote ENERGY CONSERVATION, improve the QUALITY OF LIFE, and promote consistency between transportation improvements and State and local planned GROWTH and ECONOMIC DEVELOPMENT patterns.	●	●	●	●	●	●	●	●	●	●	●	●
6	Enhance the INTEGRATION and CONNECTIVITY of the transportation system, across and between modes, for people and freight.	●	●	●	●	●	●		●	●	●	●	
7	Promote efficient SYSTEM MANAGEMENT and operation.	●	●	●					●	●			
8	Emphasize the PRESERVATION of the existing transportation system.		●	●							●		
	Goals and Objectives												
1	To develop and maintain a transportation system that will be coordinated with land use patterns and will incorporate all available modes of transportation into a safe, efficient, and effective system of moving goods and people within and through the community.	●	●	●	●	●	●	●	●	●	●	●	●
2	To enhance the economic stability of the community by improving the area's overall accessibility.	●	●	●	●	●	●	●	●	●	●	●	
3	To identify and preserve the environmental, social, and cultural resources of the community.				●	●	●	●	●	●	●	●	●
4	To actively seek input from the community and to utilize that input in the transportation planning process.	●	●	●	●	●	●	●	●	●	●	●	●
	Key Messages												
1	Gas Prices and Energy Costs – Fuel costs are expected to increase in the future and will have a significant effect on land use, transportation, quality of life, and other factors.	●	●	●	●	●	●	●	●	●	●	●	
2	Aging of the Population – People in the Rapid City area are growing older, with the fastest growing segment over age 65. This will increase the number of people with special transportation needs.				●	●	●				●	●	●
3	How We Grow – The Rapid City area will continue to be a regional service center for retail, medical, education, technology, and other economic sectors. Historic growth patterns, especially in outlying areas, may not be sustainable due to rising fuel costs, demographic factors, housing issues, and other influences.	●			●	●	●	●	●	●	●	●	
4	Downtown Rapid City – Downtown Rapid City is the region's economic and cultural hub. The region should continue to invest in downtown Rapid City to ensure a strong and vibrant core. Walkability, parking, housing, and bicycle accessibility issues should be considered.	●			●	●	●	●	●	●	●	●	
5	Modal Balance – In order to provide choice and transportation mobility for youth, seniors, persons with disabilities, and others, future investments in the transportation system should shift towards maintenance and alternative modes while funding for roadway capacity might be reduced.				●	●	●	●	●	●	●	●	

Figure 4-30: Evaluation Criteria by Planning Factors

Graphics



Tolls

Description

A user fee, or toll, to finance new toll roads and in some limited cases existing facilities. Tolls can vary based on congestion, time of day, vehicle size or number of axles, and other criteria.

Advantages

A new road is financed directly by the traveling public that uses it.

Disadvantages

Concerns about public perception of paying for something that was previously perceived to be free.

Difficult to justify without significant traffic congestion.

Application

Traditionally, tolls are used to finance individual projects but have been expanded in recent years to provide funding for a network of toll facilities. Toll facilities are implemented by state or local governments. Since they are based on traffic congestion in the rest of the transportation network, toll roads are not deemed viable in the short-term in Rapid City.

Measure / Basis

Tolls must be based on a comprehensive study that weighs the ability to pay back the bonds used to finance the road and the cost of congestion compared to the price of the toll. Toll roads are not viable unless they provide a significant time savings relative to congestion in the rest of the network or provide access to a particular area that is not otherwise available.

Examples

There are several examples of toll roads around the country. Possibly the closest is E-470/Northwest Parkway in Denver.

Revenue Potential

No revenue potential likely for the 2035 time frame, but this strategy should be monitored for long-term viability.

Other tables in the document, like those featured in **Figure 4-31** are used to explain aspects of the funding methods that may be employed for LRTP implementation. By providing the same formatted table for each of the six funding options, it is easy to view each option's detailed characteristics and then compare and contrast all alternatives. A table is provided at the end of the section that summarizes each option's revenue potential.

Figure 4-31: Tables for Expedited Explanation of Content

Option	Revenue Potential
Transportation Maintenance Fee	$2 million per year may be reasonable based on $33 per dwelling unit annually (would require legislation)
Special Improvement Districts	Dependent on specific applications – $25 million for one new interchange may be reasonable over the 25-year life of *RapidTRIP* ($1 million annually)
Tax Increment Financing	No new revenues / redirects incremental increase in property tax
Tolls	Dependent on specific applications, but no toll roads are expected over the 25 years of the Plan
Wheel Tax	$2 million per year may be reasonable based on $20 per vehicle annually
Total	Possibly $5 million annually could be generated based on these options.

Effectiveness of Images & Illustrations

The Rapid City Area MPO conducted Stakeholder Interviews, Resident and Employer Transportation Surveys, and Transportation Summit and Connections Workshops to gain insight as to the opinions of the public to establish areas in need of improvement. The survey results are detailed upfront in the 'Community Involvement' section of the document with additional survey results provided in each section. For example, the 'Bicycle and Pedestrian Plan' section begins with survey results regarding the satisfaction with the bicycle and pedestrians system in the region and the 'Transit Plan' section begins with response related to the public view of the existing transit system. This use of survey results disaggregated by topic is unique to the Rapid City Area MPO's LRTP and is effective in illustrating how the plan responds to these individual issues using minimal space and text.

Additionally the presentation of the survey results is unique, showing results either on a crescent meter scale or in a tabular format with a descending scale. The repetition of the same type of graphics for different plan elements creates consistency in the presentation of information and allows easy comparison between levels of satisfaction of these different systems. Images of the survey results graphics are provided in **Figure 4-32**.

Graphics

Lessons Learned

The plan is presented in a clean and uncluttered format that allows for the incorporation of many figures and graphics. One suggestion would be the use of a uniform color scheme for all graphics. Nevertheless, the use of explanatory images and tables is helpful in enhancing the ability of the text to articulate these concepts both efficiently and effectively. Furthermore, the emphasis with which the survey results are presented is indicative of the significant role that public input had on the plan. The method of presentation is exemplary in this aspect, providing a solid framework for plan development based on the needs of the region.

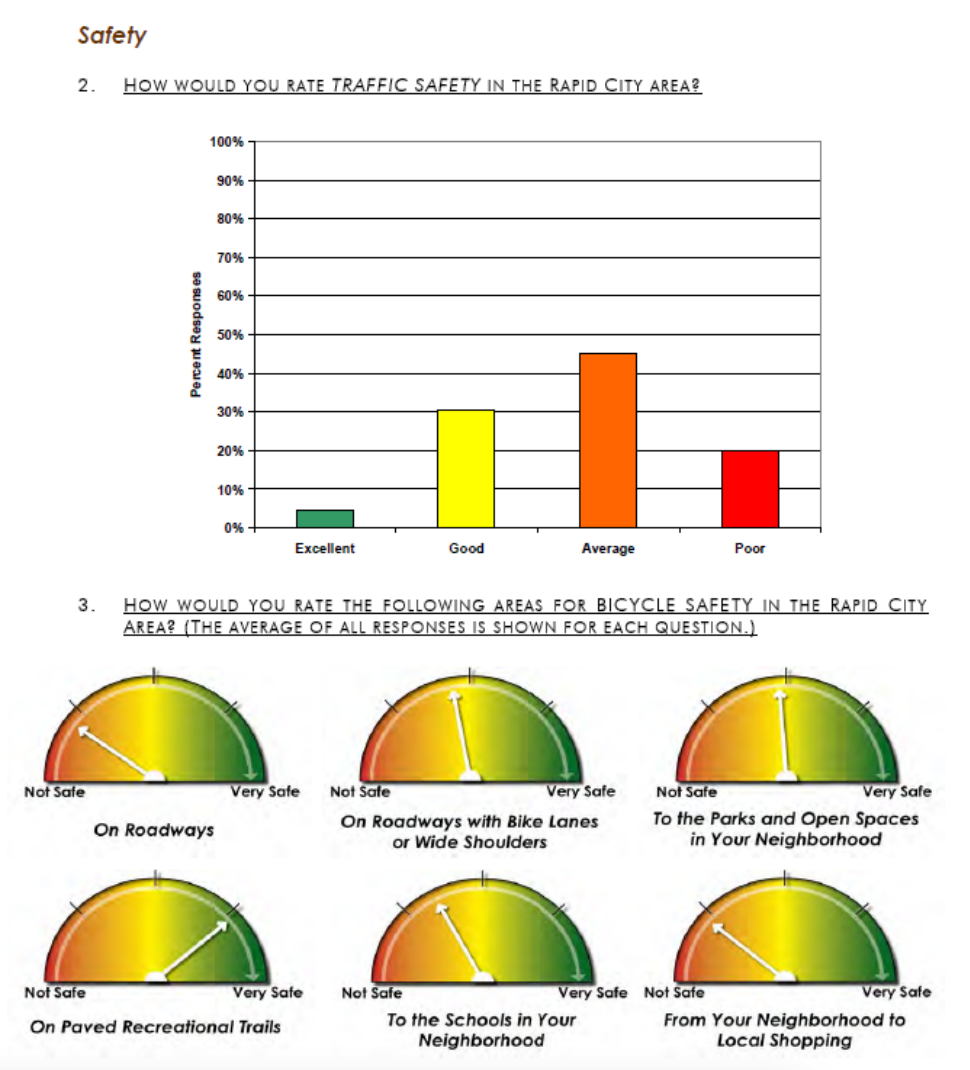
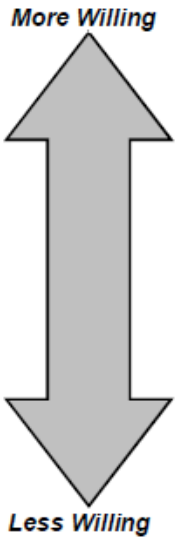


Figure 4-32: Survey Results Display

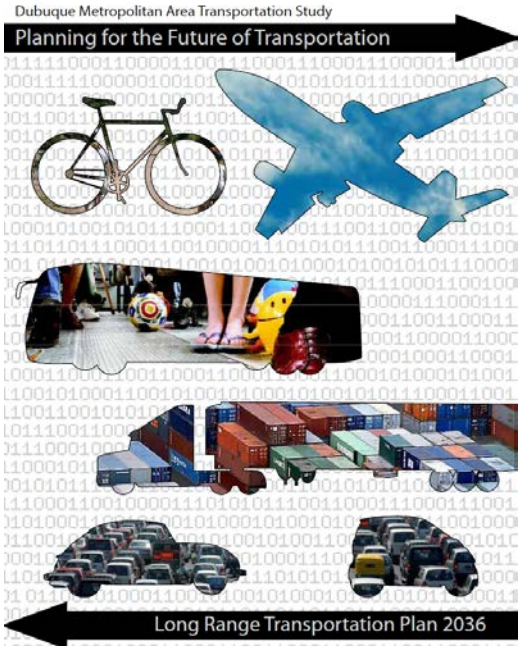


Improvements	Average Rating
Improving major streets in the Rapid City area	3.7
Adding pedestrian facilities such as sidewalks, crosswalks, bridges, etc.	3.7
Adding trails for walking and bicycling	3.5
Improving the timing of traffic signals	3.4
Improving transportation for seniors and persons with disabilities	3.4
Attracting more airlines and flights to the airport	3.3
Reducing delays caused by trains	3.2
Adding on-street bike lanes	3.0
Adding more bus routes to serve more of the community	3.0
Improving rural roads around Rapid City area	2.7
Adding bus service in the evenings	2.7
Adding bus service on weekends	2.7
Improving the airport	2.5
Improving I-90 interchanges	2.2
New interchanges on I-90	2.0
Adding lanes to I-90	1.9
Improving roads in Box Elder and Summerset	1.9

Graphics

East Central Intergovernmental Association

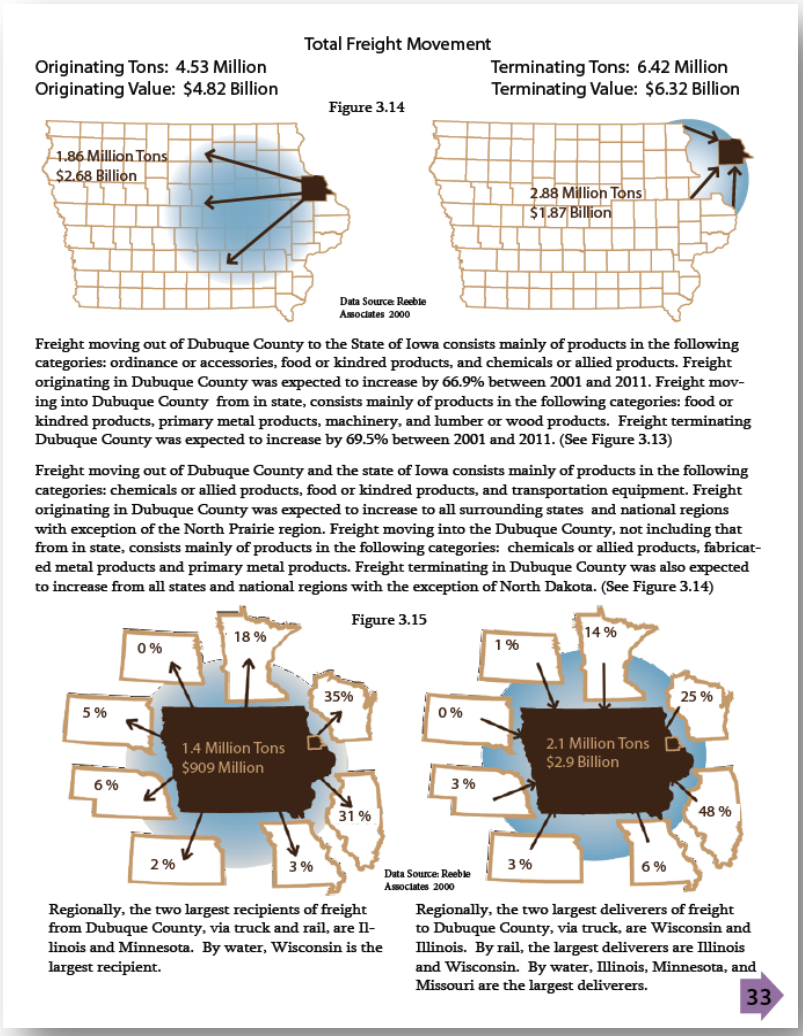
The East Central Intergovernmental Association's (ECIA) LRTP, *Planning for the Future of Transportation 2036* has a cover with a cartoon-like appearance, featuring outlines of various modes of transportation along with images of actual vehicles within the outline. The LRTP from the start shows creativity and imagination.



General Layout

The ECIA produced a very attention-grabbing document due to the use of bright and sophisticated graphic design. The LRTP was developed using clear fonts and has an arrow theme, adding arrows on the cover and for placement of page numbers. The arrows represent direction, which can be interpreted as a part of the future-oriented planning process. The document incorporates colorful, high quality images and uses bright eye-catching colors. The document also has a relatively minute margin size, allowing more space for text. The document does not utilize a header or footer, so the pages do not appear cluttered.

Figure 4-33: Mapping of Freight Movement on Various Levels of Geography



Total Freight Movement

Originating Tons: 4.53 Million
Originating Value: $4.82 Billion

Terminating Tons: 6.42 Million
Terminating Value: $6.32 Billion

Figure 3.14

1.86 Million Tons
$2.68 Billion

2.88 Million Tons
$1.87 Billion

Data Source: Reebie Associates 2000

Freight moving out of Dubuque County to the State of Iowa consists mainly of products in the following categories: ordinance or accessories, food or kindred products, and chemicals or allied products. Freight originating in Dubuque County was expected to increase by 66.9% between 2001 and 2011. Freight moving into Dubuque County from in state, consists mainly of products in the following categories: food or kindred products, primary metal products, machinery, and lumber or wood products. Freight terminating Dubuque County was expected to increase by 69.5% between 2001 and 2011. (See Figure 3.13)

Freight moving out of Dubuque County and the state of Iowa consists mainly of products in the following categories: chemicals or allied products, food or kindred products, and transportation equipment. Freight originating in Dubuque County was expected to increase to all surrounding states and national regions with exception of the North Prairie region. Freight moving into the Dubuque County, not including that from in state, consists mainly of products in the following categories: chemicals or allied products, fabricated metal products and primary metal products. Freight terminating in Dubuque County was also expected to increase from all states and national regions with the exception of North Dakota. (See Figure 3.14)

Figure 3.15

0 %
18 %
35%
5 %
1.4 Million Tons
$909 Million
6 %
31 %
2 %
3 %

1 %
14 %
25 %
0 %
2.1 Million Tons
$2.9 Billion
3 %
48 %
3 %
6 %

Data Source: Reebie Associates 2000

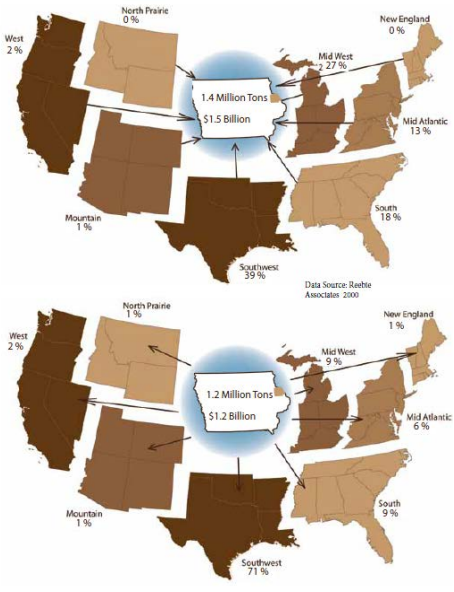
Regionally, the two largest recipients of freight from Dubuque County, via truck and rail, are Illinois and Minnesota. By water, Wisconsin is the largest recipient.

Regionally, the two largest deliverers of freight to Dubuque County, via truck, are Wisconsin and Illinois. By rail, the largest deliverers are Illinois and Wisconsin. By water, Illinois, Minnesota, and Missouri are the largest deliverers.

33

Enhancement of Content

Like many of the other LRTPs that have exhibited best practice in the graphics criterion, the ECIA's maps are exceptional uses of graphics to spatially depict information. As seen in **Figure 4-33** the LRTP uses unique ways of mapping and highlighting specific features to convey ideas within the text. These graphics are dynamic in their use of arrows and color to show freight movement on several levels.



Graphics

On a more local scale, the maps in **Figure 4-34** are noteworthy examples of the simplicity and vibrancy of the maps in this LRTP. The maps include text boxes to communicate exactly what is being presented in the image, as well as lively colors and labeling.

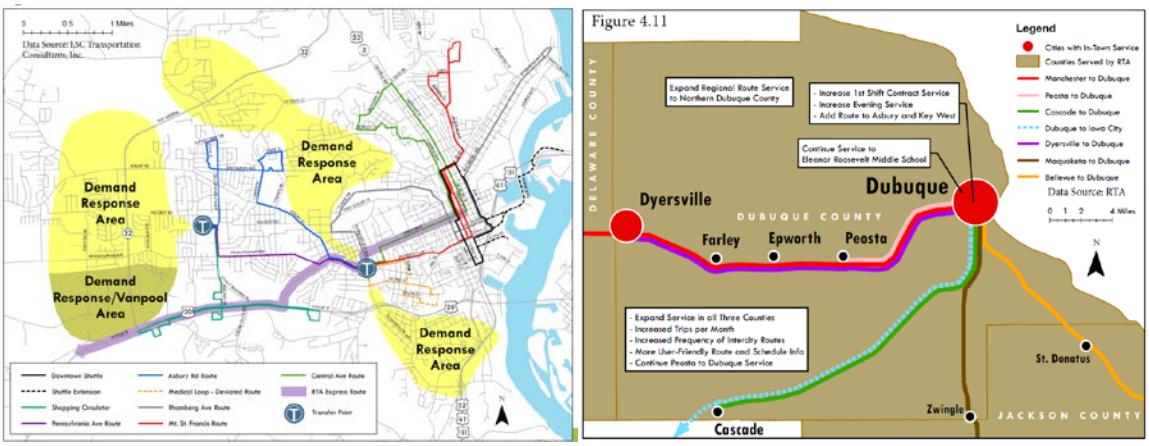


Figure 4-34: Simple Effective Mapping Schemes

In addition to these maps, graphics are used to demonstrate concepts, for example the travel demand modeling process. This elaborate flow chart provided in **Figure 4-35**, trims pages worth of information regarding the travel forecast modeling process and creates a stream of information to relate the information in an easy to follow chart with a few paragraphs of supporting text. Concepts like travel forecast modeling may be difficult for a first time reader to understand making the integration of this graphic helpful in visualizing the practice rather than articulating it with text only.

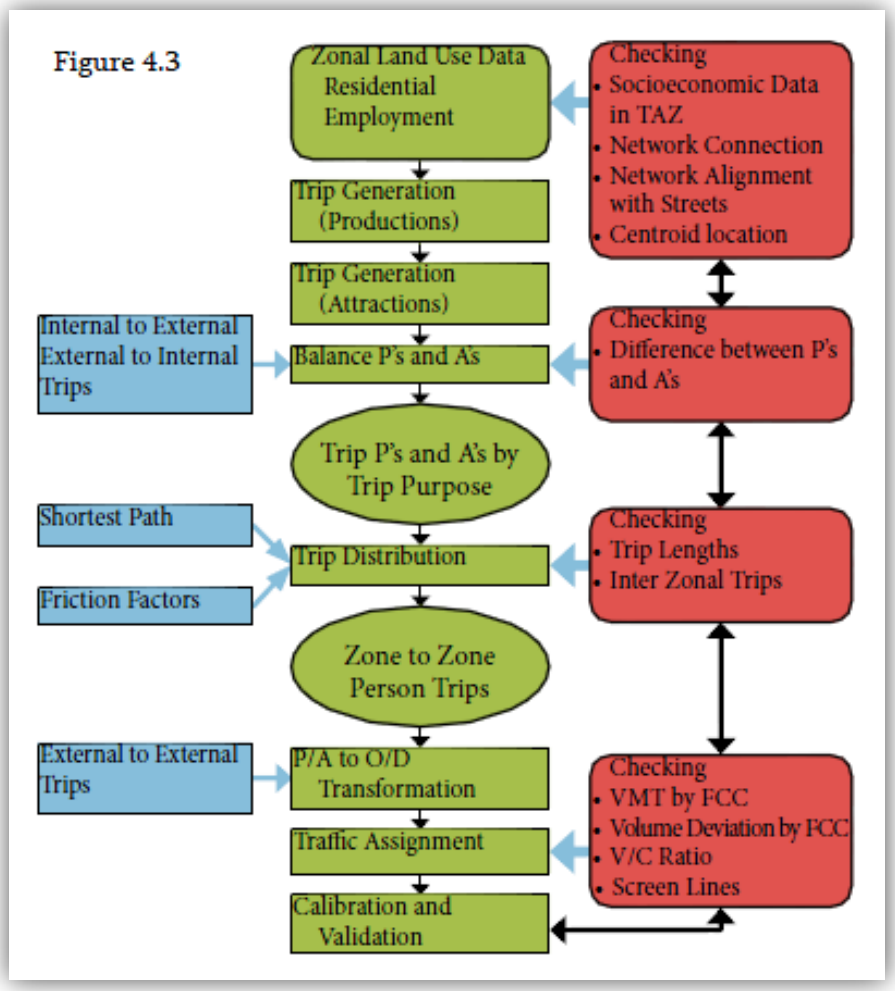


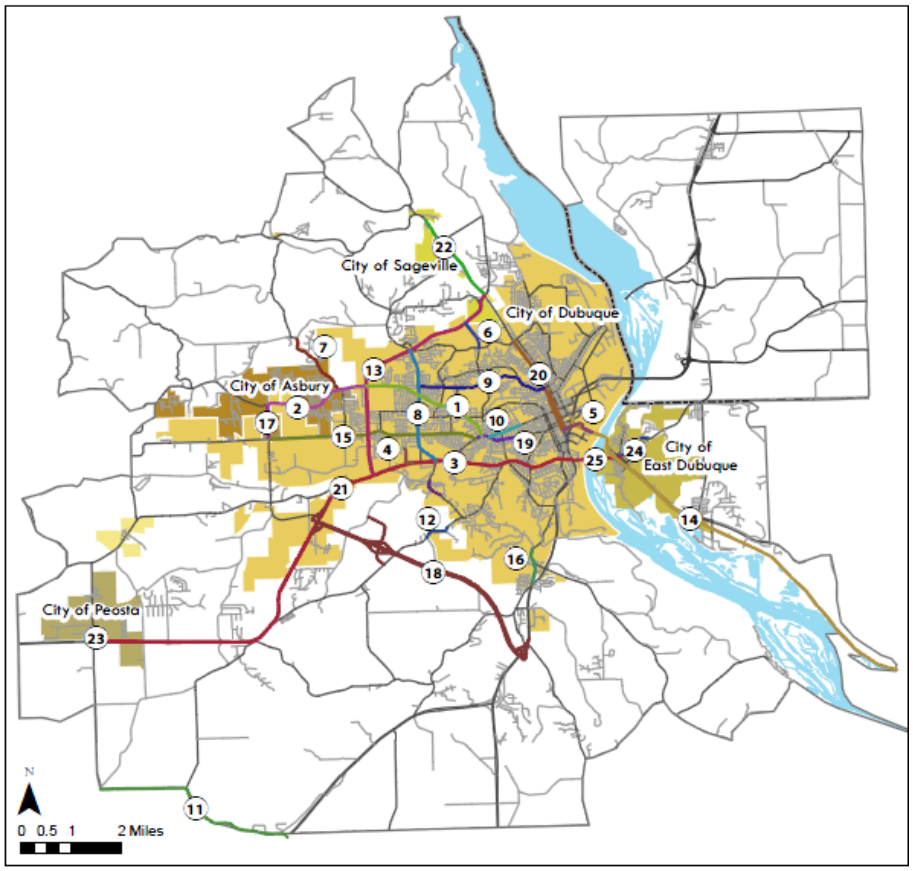
Figure 4-35: Use of Flow Chart to Explain Modeling Process

The graphics in this LRTP truly enhance the plan's content by including maps, pictures, aerials, and tables to portray priority corridors, demonstrating their current conditions, future forecasted levels-of-service, project elements, costs, and other various characteristics. While many plans simply provide lists of individual corridor needs, this LRTP goes further to illustrate the individual aspects of each corridor and familiarize the reader with the issues that exist along these areas. This method of presenting corridors allows for both illustration of the areas and comparison of needs and benefits between various corridors throughout the region. **Figure 5-36** shows the maps presented at the beginning of the series, giving a frame of reference for the location of each corridor within the region. **Figure 5-36** also includes an example corridor analysis.

Graphics

Cedar Cross Road

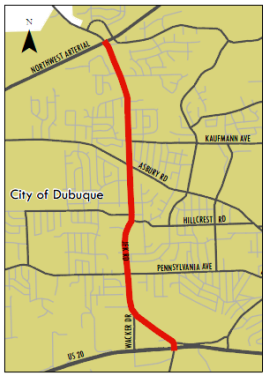
Reconstruction								
Project #	Road	From	To	Length in Miles	Number of Lanes	Cost per mile	Total Cost	Description of work
1	Cedar Cross Rd	725' E of Starlight Dr	Lake Ridge Dr	0.44	3	$3,600,000	$1,700,000	Reconstruct pavement, new sidewalks, bike lanes, add center turn lane, new utilities.
			Total				$1,700,000	
Safety & Security								
Project #	Road	From	To	Length in Miles	Number of units	Cost per unit	Total Cost	Description of work
2	Cedar Cross Rd	725' E of Starlight Dr		0.44			$100,000	Street Lighting
			Total				$100,000	
ITS improvements								
Project #	Road	From	To	Length in Miles	Number of units	Cost per unit or mile	Total Cost	Description of work
3	Cedar Cross Rd	725' E of Starlight Dr		0.44			$60,000	Fiber Optics
			Total				$60,000	
Right of Way								
Project #	Road	From	To	Length in Miles	Number of units	Cost per unit	Total Cost	Description of work
	Cedar Cross Rd	725' E of Starlight Dr	Lake Ridge Dr	0.44	35,500 sq ft	$8.11	$288,000	Widening Roadway
			Total				$288,000	
						Total Cost	$2,148,000	

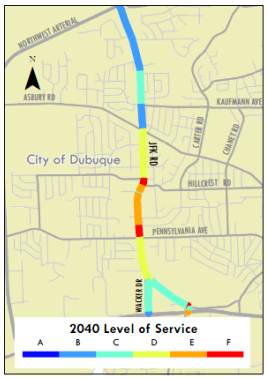


DMATS Project Corridors

- 1 - ASBURY RD EAST
- 2 - ASBURY ROAD WEST
- 3 - CEDAR CROSS RD
- 4 - CENTURY DR
- 5 - E 7TH ST
- 6 - GRANDVIEW AVE EXT
- 7 - HALES MILL RD
- 8 - JOHN F KENNEDY RD
- 9 - KAUFMANN AVE
- 10 - LORAS BLVD
- 11 - MONASTERY RD
- 12 - NORTH CASCADE RD
- 13 - NW ARTERIAL
- 14 - PASSENGER RAIL & INTERMODAL
- 15 - PENNSYLVANIA AVE
- 16 - ROCKDALE RD
- 17 - SEIPPEL RD
- 18 - SW ARTERIAL
- 19 - UNIVERSITY AVE
- 20 - US 52 CENTRAL & WHITE
- 21 - US HWY 20
- 22 - US HWY 52
- 23 - PEOSTA ROUNDABOUT
- 24 - EAST DUBUQUE PROJECTS
- 25 - US HWY 20 BRIDGE

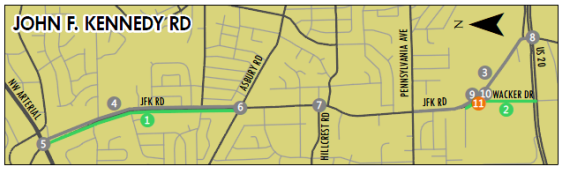
John F. Kennedy Road



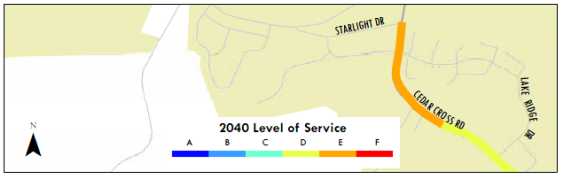


Project Elements

Numbers on map correspond with item numbers in the accompanying table



Cedar Cross Road



Project Elements

Numbers on map correspond with item numbers in the accompanying table

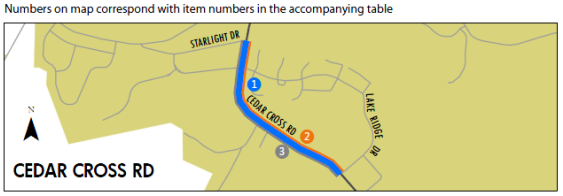


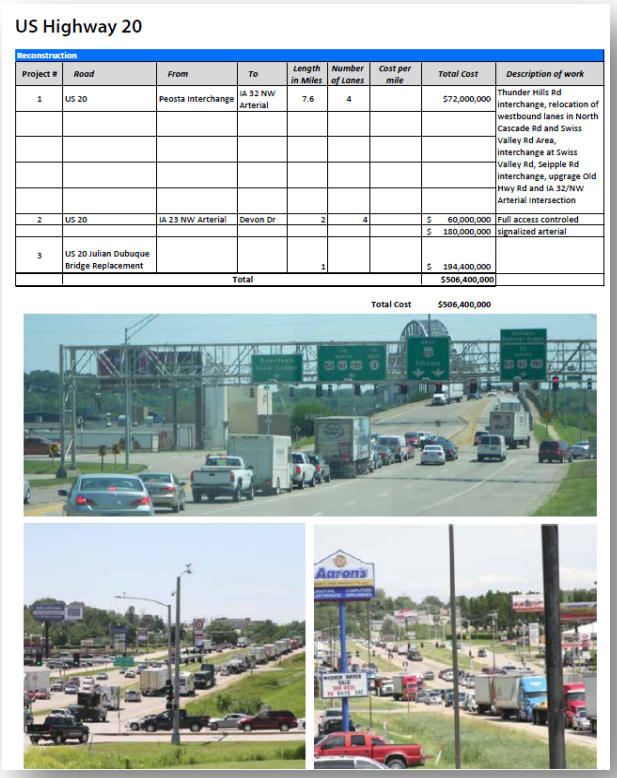
Figure 4-36: Detailed Corridor Mapping

Graphics

Effectiveness of Images & Illustrations

In addition to the ability of the ECIA's graphics to advance the content of the LRTP, the graphics are also an effective means of communicating ideas. The photos used in the document help to support the plan's proposed needs. For example in **Figure 4-37**, the photos of the US Highway 20 corridor illustrate major areas of congestion, contributing to the idea that this corridor is in need of improvement. Similarly, local airline photos help depict the regional air traffic system. Graphics that illustrate planned passenger rail service, as shown in **Figure 4-38**, show a detailed map of the rail terminal using illustrations to build upon the plans by showing what the facility will actually look like—all to aid the reader's ability to visualize the planned improvements.

Figure 4-37: Effect Use of System-Related Photos



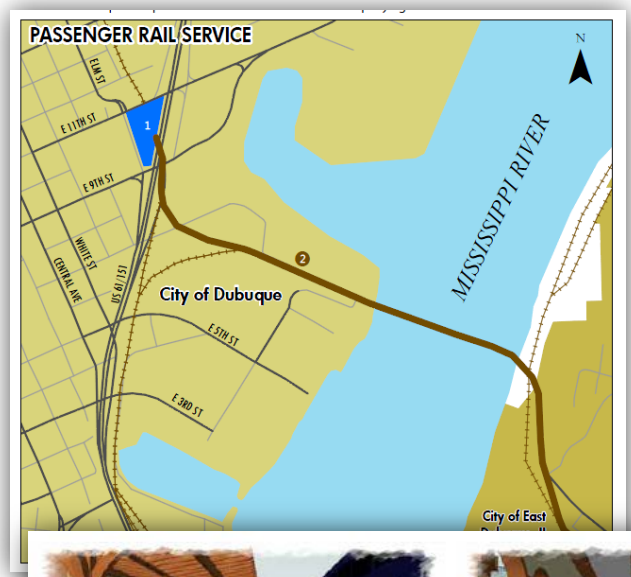
US Highway 20

Reconstruction

Project #	Road	From	To	Length in Miles	Number of Lanes	Cost per mile	Total Cost	Description of work
1	US 20	Peosta Interchange	IA 32 NW Arterial	7.6	4		$72,000,000	Thunder Hills Rd interchange, relocation of westbound lanes in North Cascade Rd and Swiss Valley Rd Area, interchange at Swiss Valley Rd, Seipple Rd interchange, upgrage Old Hwy Rd and IA 32/NW Arterial Intersection
2	US 20	IA 23 NW Arterial	Devon Dr	2	4		$ 60,000,000	Full access controled
							$ 180,000,000	signalized arterial
3	US 20 Julian Dubuque Bridge Replacement			1			$ 194,400,000	
	Total						$506,400,000	

Total Cost $506,400,000

Figure 4-38: Incorporation of Spatial and Facility Plans



Air Transportation

The Dubuque Regional Airport Master Plan was last updated in 2004 by Coffman Associates, Incorporated of Lee's Summit, Missouri. The plan is designed to provide systematic guidelines to the City of Dubuque in its overall development of the airport. The Airport Element of the 2040 Long-Range Transportation Plan will summarize and incorporate the recommendations of the 2004 Airport Master Plan update.

Based aircraft at the airport totaled 79 aircraft in 2003. There were an estimated 55,009 total annual operations conducted in 2003. Of that total, general aviation had 48,447 operations, commercial carriers had 6,489 operations, and the military had 73 operations. In recent years the number of aircraft operations and revenue enplaments has decreased. (See Figures 3.17 and 3.18). Commercial flights out of the Dubuque Regional Airport are provided by American Eagle Airlines. American Eagle currently offers three daily flights to Chicago O'Hare International Airport.

Figure 3.19

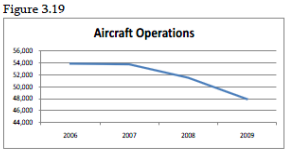
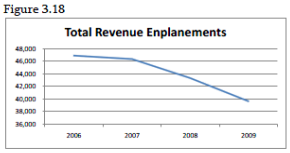


Figure 3.18

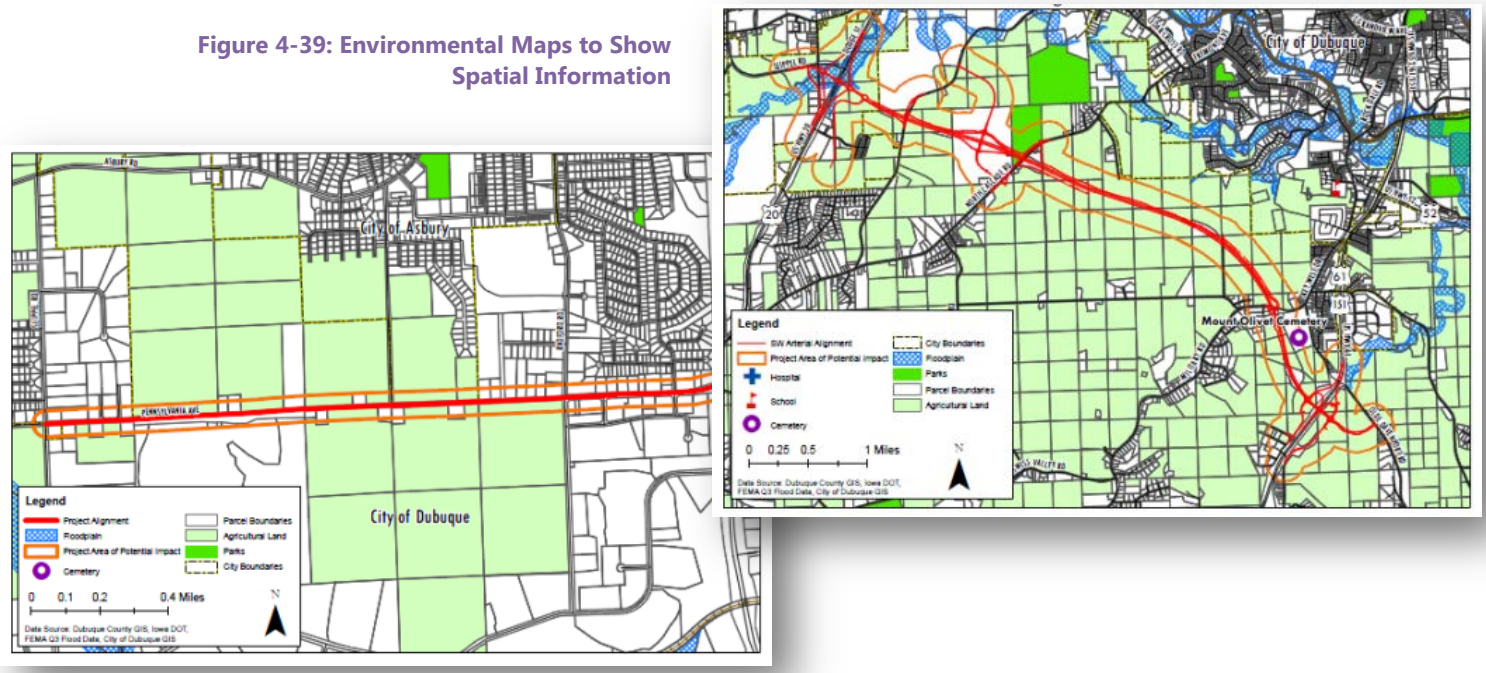


Data Source: Dubuque Regional Airport

Graphics

Environmental maps shown in **Figure 4-39** are more detailed than many of the maps presented in the ECIA's LRTP, but these images effectively present the corridors as they relate to the natural environment through the use of buffers and various environmentally descriptive layers. Maps like this were created for each corridor. These maps are presented to show specific detail for each corridor to give the reader a specific understanding of the impacts that each project could have on the surrounding environment.

Figure 4-39: Environmental Maps to Show Spatial Information



Lessons Learned

The ECIA's LRTP is an effective and vivid portrayal of a regional transportation plan. The document is well-designed, using uncluttered yet descriptive maps and high-quality images throughout the text. The use of individual corridor maps and detailed tables aids in emphasizing the importance of each element in the plan with specific regard to each major corridor for improvement. These detailed presentations allow for easy comparison across corridors and understanding of regional needs on both the regional and corridor scale.

Vision

Introduction to Vision Assessment

The visioning process is a vital ingredient to any major planning effort. In order to effectively create a plan that unifies a region, a collective purpose must first be established. Federal requirements do not specifically require this particular component of an LRTP, yet its presence in the document shows a commitment to some eventual future that transcends a list of fiscally constrained projects.

Measures of Evaluation

The vision statements found in the review of LRTPs from across the country provided a foundation for future development and ranged from a simple statement at the beginning of an LRTP to a stand-alone report entirely independent of the LRTP document. As a means to assess visions, the following three measures were used:

- Presentation of the Vision
- Implications on the Planning Process
- Inclusion of Regionally Significant Issues

Presentation of the Vision entails the assessment of how the vision is portrayed within the LRTP. Factors such as the location of the vision, or whether the vision is stated singularly upfront or mentioned throughout the entirety of the plan plays a large role in the ability of the document to illustrate a clear and well defined vision. Other presentational elements including graphics, maps, bullets, and topic hierarchies have been taken into account in the evaluation of each LRTP's vision.

Implications on the Planning Process assesses whether the plan's vision is referred to throughout the document. If there is a regional vision, it is critical that the LRTP speak to and build upon this vision to acknowledge the importance of working towards a collective regional vision of the future. The evaluation of this entails the congruence between the LRTP's goals and objectives and the vision, as well as the elements within the plan itself.

Inclusion of Regionally Significant Issues builds upon the above assessment of Implications on the Planning Process, but reaches further into the specific concerns within the region. By simply reading an LRTP, the reader should gain an understanding of the overriding regional issues of significance, whether related to the area's infrastructure, economy, policy, environment, or other factors. The ability of the vision to address these unambiguous issues rather than provide a generic statement is indicative of the development of an effective vision.

LRTP Selection

Vision was not a factor in the initial assessment of the LRTPs. The visioning criterion was added based on feedback received during listening sessions with stakeholders. Therefore, the visioning analysis was conducted on a smaller subset of LRTPs than were conducted on the length, clarity, and graphics criteria. As a result, only LRTPs with an overall high composite evaluation scores were reviewed for their visioning element.

A list of the MPOs that received the highest scores for visioning is provided below in **Table 5-1**. Six LRTPs were selected, two from each population category (large, medium, and small). The two MPOs from the large "1,000,000 and Above" population category include: the National Capital Region Transportation Planning Board (TPB) and the Baltimore Regional Transportation Board (BRTB). The two MPOs in the medium "200,000 to 1,000,000" population category include: the Capital District (Albany) Transportation Committee (CDTC) and the Association of Monterey Bay Area Governments (AMBAG). The Jacksonville (NC) Urban Area MPO and the Tahoe MPO (TMPO) were selected for the small "200,000 and Below" population category.

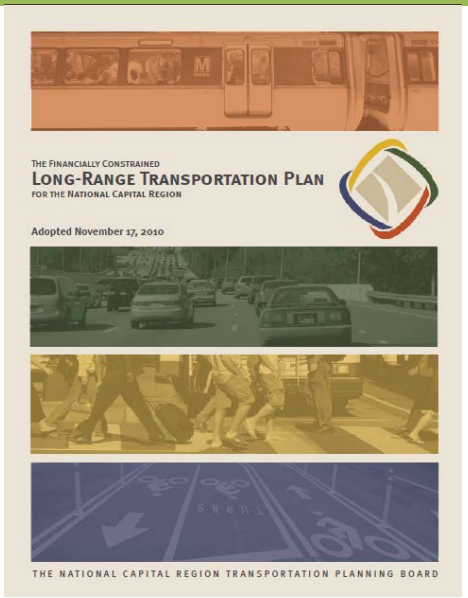
Vision

Table 5-1: MPOs Selected for Vision Assessment

MPO	State	Major City	Area (Sq. Mi.)	Population 2000	Population 2010	LRTP Year
National Capital Region Transp. Planning Board	DC, MD, VA	Washington	3,111	4,330,934	4,991,324	2040
Baltimore Regional Transportation Board	MD, DC	Baltimore	2,299	2,512,431	2,662,204	2035
Capital District Transportation Committee	NY	Albany	2,204	780,467	823,239	2035
Association of Monterey Bay Area Governments	CA	Marina	5,151	710,598	732,667	2035
Jacksonville Urban Area MPO	NC	Jacksonville	217	107,557	126,132	2035
Tahoe MPO	NV, CA	Stateline	512	62,752	55,489	2030

Vision

National Capital Region Transportation Planning Board



It is evident by viewing the National Capital Region Transportation Planning Board's (TPB) LRTP that the development of a detailed regional vision was one of the key focuses of the planning process. The 88-page document illustrates a clear and supported vision.

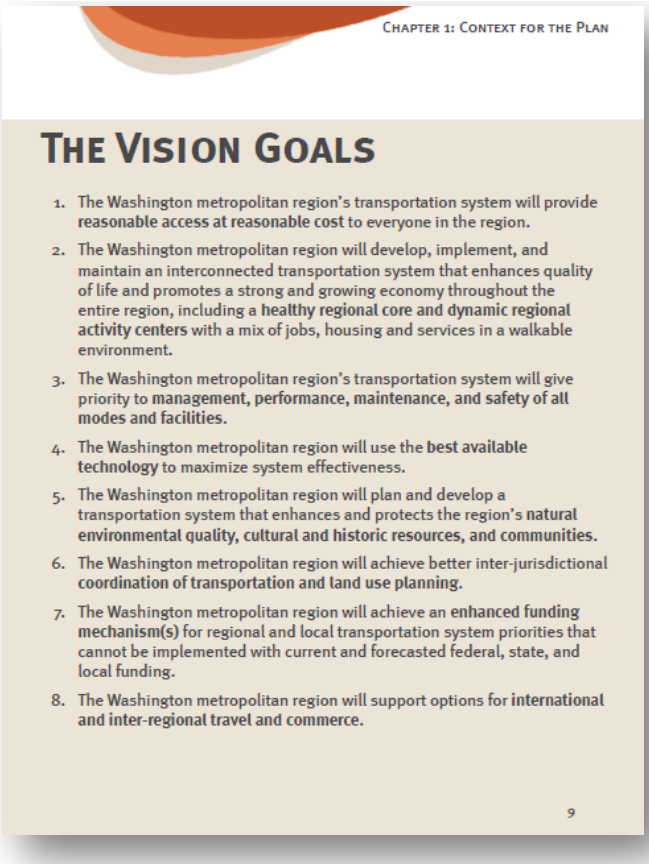
Presentation of the Vision

The TPB's vision for the 2040 LRTP is an extension of the outcome of a ten-year public outreach effort spanning the Washington DC Metropolitan area. It was approved unanimously by the TPB and published in 1998 entitled, *The Vision*, and later updated in *Region Forward*, a subsequent strategic visioning document published in 2008.

While these documents are separate entities from the LRTP, they are each introduced and referenced within the first chapter of the document. Directly succeeding the introduction of these two documents are the eight 'Vision Goals,' outlined in a concise manner that sets the stage for the remainder of the document, comprised of the following sections: 'The Regional Framework: Ongoing Activities;' 'The Plan: Programs and Projects;' 'Outlook 2040: Expected Performance of the Plan;' and the 'TPB Priorities' and the '2014 CLRP: A Performance Based Planning Approach.'

The introduction and layout of these eight goals is both beneficial and eye-catching to the reader. It spans one complete sheet located on page nine of the LRTP, bringing the goals to the forefront of the plan. **Figure 5-1** shows the TPB's vision as it appears in the document. The goals explicitly highlight themes that apply to the entire Metropolitan Region in each sector of practice, such as:

Figure 5-1: TRB Vision Layout


CHAPTER 1: CONTEXT FOR THE PLAN

THE VISION GOALS

1. The Washington metropolitan region's transportation system will provide **reasonable access at reasonable cost** to everyone in the region.
2. The Washington metropolitan region will develop, implement, and maintain an interconnected transportation system that enhances quality of life and promotes a strong and growing economy throughout the entire region, including a **healthy regional core and dynamic regional activity centers** with a mix of jobs, housing and services in a walkable environment.
3. The Washington metropolitan region's transportation system will give priority to **management, performance, maintenance, and safety of all modes and facilities.**
4. The Washington metropolitan region will use the **best available technology** to maximize system effectiveness.
5. The Washington metropolitan region will plan and develop a transportation system that enhances and protects the region's **natural environmental quality, cultural and historic resources, and communities.**
6. The Washington metropolitan region will achieve better inter-jurisdictional **coordination of transportation and land use planning.**
7. The Washington metropolitan region will achieve an **enhanced funding mechanism(s)** for regional and local transportation system priorities that cannot be implemented with current and forecasted federal, state, and local funding.
8. The Washington metropolitan region will support options for **international and inter-regional travel and commerce.**

9

1. Providing reasonable access at a reasonable cost;
2. Support for existing and developing activity centers;
3. Heightening safety measures for drivers, transit passengers, bicyclists, and pedestrians;
4. Advancement of technological resources;
5. Environmental, cultural, and historic preservation;
6. Coordination of land use and transportation planning efforts among various jurisdictions;
7. Enhancement of financial feasibility through innovative funding mechanisms; and
8. Encouragement of international and interstate movement.

The TPB's LRTP includes a history of the plan, explains how the goals have been achieved over respective planning years, and outlines a continuum of improvements rather than a limited set of projects to meet regional goals and objectives. It provides an integrated vision that was derived through community-based conversations to incorporate sentiments from all populations and voices within the region.

Vision

Implications on the Planning Process

The TPB's LRTP is distinguished for its vision, as it is continuously referenced throughout the entire document by citing specific goals both individually and conjunctively. Each of the elements introduced in the vision is addressed in the document with strategic policy and projects linked to the vision's goals. **Figure 5-2** illustrates a few examples in which specific goals outlined in the vision are identified and subsequently addressed in the LRTP. Additionally, actions like the development of a composite land use and transportation map that includes the identification of regional activity centers, coupling Goal 2 and Goal 6, speak to the importance of visioning.

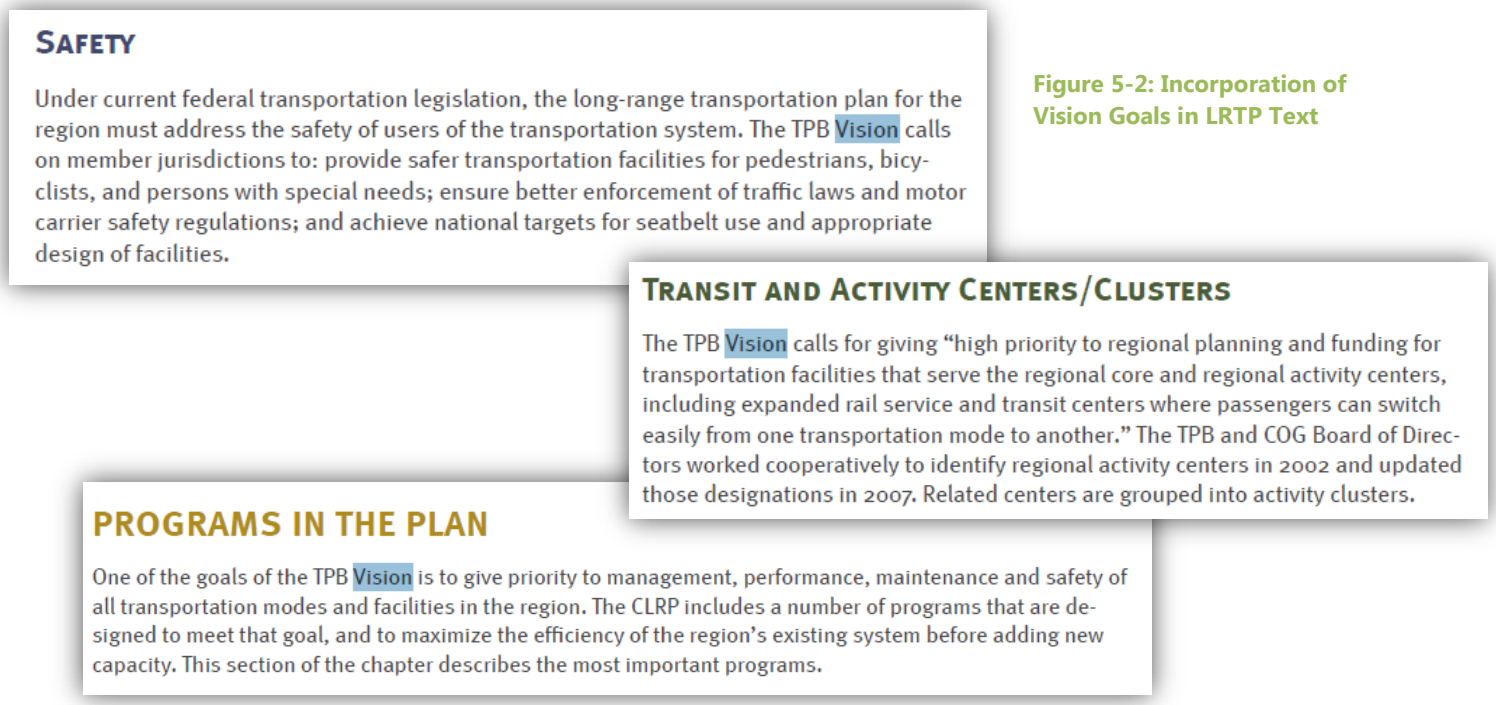


Figure 5-2: Incorporation of Vision Goals in LRTP Text

Inclusion of Regionally Significant Issues

The Vision is a unique planning document in that it outlines the overarching transportation goals for the region and provides specific policy-related guidance geared towards achieving these improvements rather than emphasizing individual projects. The document has been used by the TPB not only as a guide for policy development but also as a reference to regional values and as a collective representation of the community.

Region Forward was published in 2008 and builds upon *The Vision* by establishing methods for responding to issues including: variations in population growth; needs for infrastructure replacement and improvement; growing congestion on local roadways and regional highways; rising costs of energy; development of sustainable communities; and protection of areas of environmental significance. The intent of *Region Forward* was not to create a new vision for the metropolitan area but to address the previous vision and identify what was accomplished over the past decade to "tie together earlier work in a comprehensive way."

Vision

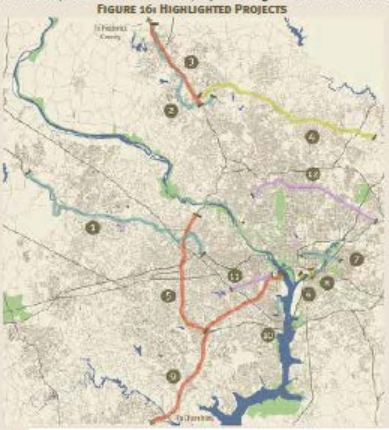
One unique aspect of the TPB's LRTP is that it provides an illustrative timeline of regionally significant projects beginning in 1999, which allows the reader to visualize the implications of the plan over the course of a decade. **Figure 5-3** depicts the TPB's timeline of regionally significant issues and relates them to the LRTP's vision, enhancing the vision statement with concrete examples of the program's success.

Figure 5-3: Timeline of TRB Projects

HIGHLIGHTED PROJECTS FROM 1999 THROUGH 2009

These are some of the large-scale regional projects that have been added to the CLRP over the past decade. The information presented here reflects project listings in the 2010 CLRP, adopted by the TPB on November 17, 2010.

FIGURE 16: HIGHLIGHTED PROJECTS



1999

1 Dulles Corridor Rapid Transit

- Covers a 23.1-mile extension of the Metrorail system from Fairfax County to Washington Dulles International Airport.
- Cost: $5 billion
- Completion: 2014 and 2015

2006

6 DC Streetcar: Initial Anacostia Segment

- Implement streetcars from Firth Sterling Ave. and South Capitol St. to Howard Rd. and Martin Luther King Jr. Ave.
- Cost: $21 million
- Completion: 2011

7 South Capitol Street Bridge

- Covers a 7.5-mile corridor, including four interchanges and two new drawbridges.
- Cost: $822.5 million
- Completion: 2015

8 11th Street Bridge

- Upgrade of the existing 11th St. bridges and ramps, connecting the Anacostia and Southeast Freeways.
- Cost: $475 million
- Completion: 2013

2003

2 Corridor Cities Transitway

- Covers a 14-mile corridor from Rockville to Clarksburg, and will be an LRT or BRT line.
- Cost: $871 million
- Completion: 2016

3 I-270/US 15 Corridor

- Widen I-270 from Shady Grove Metro Station to Biggs Ford Rd., possibly including HOV and/or express toll lanes.
- Cost: $3.4 billion
- Completion: 2030

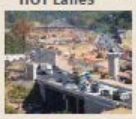
2004

4 Intercounty Connector

- Construct a new 18-mile east-west highway in Montgomery and Prince George's Counties between I-270 and I-95/US 1.
- Cost: $2.5 billion
- Completion: 2011

2005

5 Capital Beltway HOT Lanes



- Widen I-495 to 12 lanes with 4 HOT lanes for 15 miles from VA 193 connecting to I-95/I-395 at the Springfield Interchange.
- Cost: $1.6 billionillion
- Completion: 2013, 2030

2007

9 I-95/395 HOV/Bus/HOT Lanes

- Reconfigure the HOV lanes between Eads St. and Dumfries to include HOT lanes for 36 miles.
- Cost: $889 million
- Completion: 2012, 2014

10 Potomac Yards Transitway, Alexandria

- Buses will run on a combination of dedicated transitway and mixed traffic between Four Mile Run and the Braddock Road Metro Station.
- Cost: $18.1 million
- Completion: 2013

2008

11 Columbia Pike Streetcar

- From Skyline to Pentagon City Metro Station.
- Cost: $135 million.
- Completion: 2016

2009

12 Purple Line

- A 16-mile corridor from the Bethesda to New Carrollton Metro Stations.
- Cost: $1.685 billion
- Completion: 2018

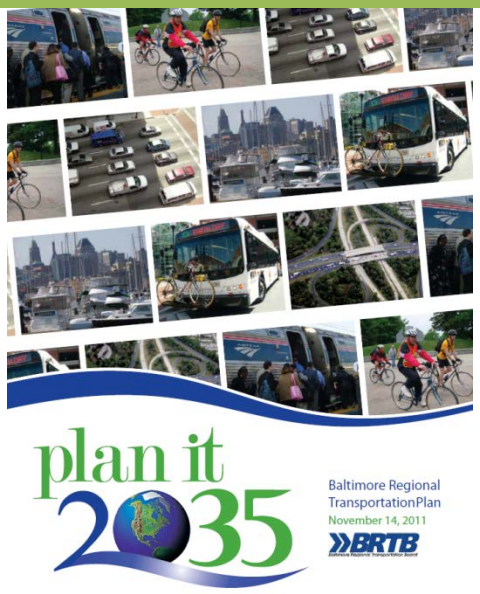
Lessons Learned

The TPB's LRTP is an excellent example of visioning efforts with a concise presentation of the visioning elements. It is also an outstanding example that continuously refers back to its vision and explains how the LRTP supports and expands upon these concepts to work toward regional improvements. The emphasis on ensuring that the vision is addressed is shown in the project timeline. This increases the awareness of the LRTP's ability to bring the vision to reality are also highlights of the TPB's plan.

Vision

Baltimore Regional Transportation Board

The Baltimore Regional Transportation Board (BRTB) titled their LRTP *Plan It 2035*. The plan is a rather lengthy document with a total of 217 pages excluding appendices, but provides a well-developed and articulated regional vision that incorporates a solid foundation for the long range planning effort.



Presentation of the Vision

The vision is referenced in the second Chapter of the LRTP. Similar to that of the TPB's Eight Vision Goals, the BRTB's "12 Planning Visions" comprise one page of the document in an eye-catching manner. The simplicity in the statement of each vision element helps to maintain reader interest, and the list contains user-friendly language that can be read and understood by readers of all levels, which is critical as the LRTP is a publically distributed document.

The twelve planning visions are ordered consecutively in a way that each vision builds upon the previous one to illustrate a structured plan for development. It is clear that all phases of the visioning process rely upon one another to create a sound strategy for smart development. The twelve planning visions include: (1) Quality of Life and Sustainability; (2) Public Participation; (3) Growth Areas; (4) Community Design; (5) Infrastructure; (6) Transportation; (7) Housing; (8) Economic Development; (9) Environmental Protection; (10) Resource Conservation; (11) Stewardship; and (12) Implementation. **Figure 5-4** shows the layout of the planning visions as they appear in "Plan It 2035."

Figure 5-4: BRTB's Twelve Planning Visions Presentation

12 PLANNING VISIONS:

1. ***Quality of Life and Sustainability:***
   A high quality of life is achieved through universal stewardship of the land, water, and air resulting in sustainable communities and protection of the environment.
2. ***Public Participation:***
   Citizens are active partners in the planning and implementation of community initiatives and are sensitive to their responsibilities in achieving community goals.
3. ***Growth Areas:***
   Growth is concentrated in existing population and business centers, growth areas adjacent to these centers, or strategically selected new centers.
4. ***Community Design:***
   Compact, mixed-use, walkable design consistent with existing community character and located near available or planned transit options is encouraged to ensure efficient use of land and transportation resources and preservation and enhancement of natural systems, open spaces, recreational areas, and historical, cultural, and archeological resources.
5. ***Infrastructure:***
   Growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient, and environmentally sustainable manner.
6. ***Transportation:***
   A well-maintained, multimodal transportation system facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population and business centers.
7. ***Housing:***
   A range of housing densities, types, and sizes provides residential options for citizens of all ages and incomes.
8. ***Economic Development:***
   Economic development and natural resource-based businesses that promote employment opportunities for all income levels within the capacity of the state's natural resources, public services, and public facilities are encouraged.
9. ***Environmental Protection:***
   Land and water resources, including the Chesapeake and coastal bays, are carefully managed to restore and maintain healthy air and water, natural systems, and living resources.
10. ***Resource Conservation:***
    Waterways, forests, agricultural areas, open space, natural systems, and scenic areas are conserved.
11. ***Stewardship:***
    Government, business entities, and residents are responsible for the creation of sustainable communities by collaborating to balance efficient growth with resource protection.
12. ***Implementation:***
    Strategies, policies, programs, and funding for growth and development, resource conservation, infrastructure, and transportation are integrated across the local, regional, state, and interstate levels to achieve these Visions.

Implications on the Planning Process

The vision is referenced throughout the plan to demonstrate how specific projects contribute to this regional future. Each visioning element is distinctly reflected in the BRTB's LRTP which further makes clear that the plan was designed as a response to these goals by integrating jurisdictional efforts into a single regional vision. For example, it is noted that various projects incorporate mixed land use and high density development, stemming from vision component 4: Community Design. Furthermore, the section on economic trends is a product of vision component 8: Economic Development as it discusses the linkages between transportation and economic growth. The

Vision

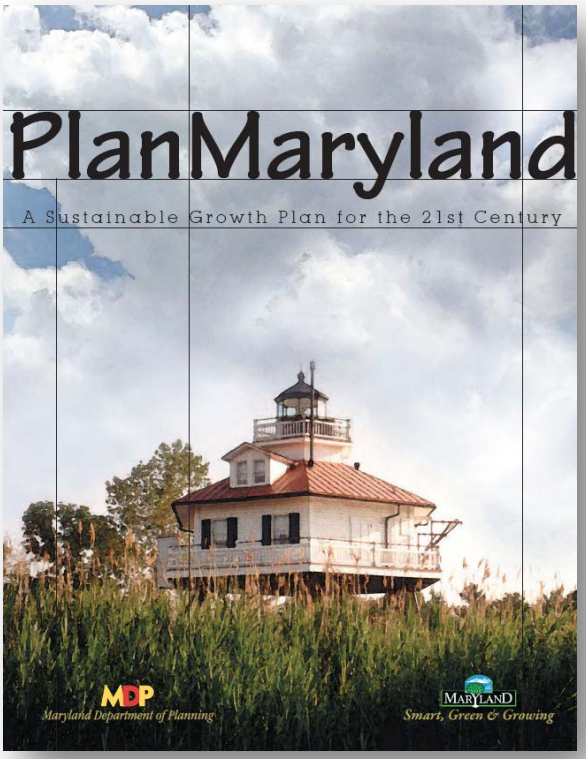
Environmental Concerns section further explores the concepts of air and resource conservation which relates to vision elements '9: Environmental Protection' and '10: Resource Management.' These and other examples found within the BRTB's LRTP underscores the significant role that the vision played in the development of the LRTP.

Additionally, to enhance the transportation element of the twelve planning visions, BRTB created an innovative planning process to collaborate with members of the community and local agencies to consider regional growth over the next fifty years and the consequences this growth will have on the regional transportation system. This planning process, termed 'Imagine2060,' incorporated scenario planning tools to envision a variety of conditions and the response of the community to each aspect of the scenario. Public involvement forums were devised to elicit individual citizen's visions for regional transportation system development, as well as to inform the community of the tradeoffs that accompany each growth scenario. Through the analysis of these different scenarios, land use and transportation preferences were selected and incorporated into the development of the BRTB's LRTP.

Inclusion of Regionally Significant Issues

In 2007, the Maryland General Assembly created a Task Force on Future Growth and Development to collaborate with local and state agencies in the definition of smart growth visions, goals, and objectives. Due to the initial success of the program, the Task Force was expanded in 2009 to coordinate with localities in the implementation of suggested smart growth policy visions. In 2010, the Task Force was further expanded into a permanent Commission to steer statewide planning practices and to steward Smart Growth policies under the title *PlanMaryland,* **Figure 5-5**.

Figure 5-5: PlanMaryland



Under *PlanMaryland*, a vision for the entire state was developed and summarized into the twelve underlying planning visions. The BRTB adopted these twelve planning steps in the LRTP to define its overarching regional vision, as listed in **Figure 5-4**. While the vision was authored by a Statewide Commission, the fact that the BRTB used the same twelve planning visions in its long range plan demonstrates a set of united statewide planning goals, as well as unified regional goals.

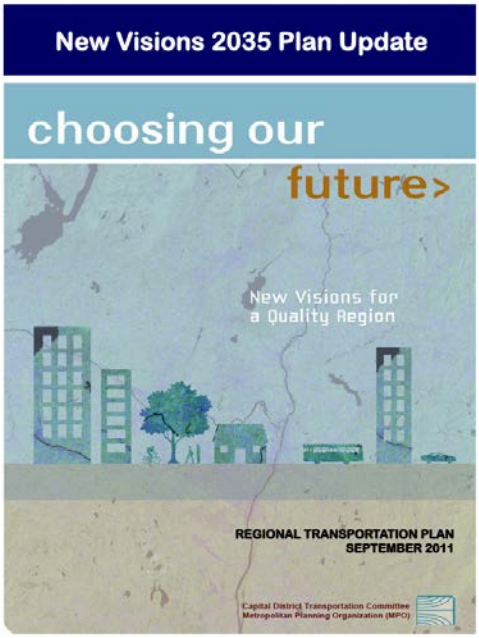
Lessons Learned

The BRTB's LRTP successfully demonstrates how to incorporate a regional vision with a succinct and eye-catching presentation—incorporated relatively early within the LRTP. Additionally, the BRTB incorporated an innovative and vision-focused scenario planning process for regional transportation analysis and long-range plan development. This process yielded a plan that fully responds to each of the twelve visioning components. The BRTB's LRTP provides the reader with an extensive explanation as to how this regional vision was developed and how its long-range planning efforts built upon the vision to develop a set of transportation system improvements that directly relate to each of the twelve regional visioning elements.

Vision

Capital District Transportation Committee

The Capital District Transportation Committee's (CDTC) LRTP, *New Visions 2035*, expands on the 2030 LRTP while simultaneously preparing for the 2040 LRTP, somewhat acting as an intermediary between the two major planning horizon years. The theme of the LRTP is "Choosing Our Future: New Visions for a Quality Region," a premise that demonstrates the region's commitment to create visions that progress the transportation system into the future.



Presentation of Vision

New Visions 2030 was the predecessor to *New Visions 2035*, from which the LRTP was based. Within the *New Visions 2035* document, the CDTC clearly states that the 2035 plan is a "reaffirmation of the 2030 plan." The opening page includes a quotation by the mayor of one of the local jurisdictions. The quote as it appears in the document, shown in **Figure 5-6**, provides an explanation as to the purpose of the plan and the significance what "New Visions" represents within the regional community.

Figure 5-6: New Visions Introductory Quotation

> "New Visions… represents the collective position of the Capital Region and will have important impacts on regional planning and development. It is a framework that describes how to meet the region's transportation needs in a cost-effective manner while promoting safety, enhancing the environment, building strong communities and improving the overall quality of life.
>
> "The New Visions plan advocates urban investment, concentrated development patterns and smart growth—elements that contribute to economic, educational, social, cultural and recreational opportunities, and that provide safe neighborhood environments and housing choices for all."
>
> John T. McDonald, III, Mayor, City of Cohoes
> Chairman, CDTC

The actual vision for the plan is introduced on pages three and four, in which four themes for New Visions are introduced:

- Preserve and manage the existing investment in the region's transportation system;
- Develop the region's potential to grow into a uniquely attractive, vibrant, and diverse metropolitan area;
- Link transportation and land use planning to meet the Plan's goals for urban investment, concentrated development patterns, and smart economic growth; and
- Plan and build for all modes of transportation, including pedestrian, bicycle, public transit, cars, and trucks.

These four themes are followed by a full-page spread entitled 'Issues that Affect Everyone,' presenting brief descriptions of issues that must be addressed in order to achieve the four visioning themes as substantial factors in the long-range planning process. **Figure 5-7** shows the spread on which the plan's visioning issues are introduced and discussed prior to being addressed within the plan itself. The thirteen issues that are introduced in this section set the stage for the remainder of the LRTP, as the following pages go into further detail on these issues, including progress achieved since the 2030 plan and the plans to implement the 2035 plan.

Vision

Implications on the Planning Process

After the four visioning themes and thirteen issues are introduced, eleven sections are provided to summarize what was accomplished since the adoption of the *New Visions 2030* plan, with regard to:

- Financial Plan;
- Quality Region/ Land Use/ Integrated Design;
- Infrastructure;
- Transit;
- Congestion Management;
- Bicycle and Pedestrian;
- Safety;
- Travel Demand Management;
- Elderly and the Disabled;
- Environmental Impacts/Sustainability; and
- Public Participation.

In these eleven sections, the programs that were implemented as a part of the *New Visions 2030* plan are discussed and their impacts are analyzed to illustrate the plan's effectiveness to date. Extensions of these programs from the 2030 plan are included in each section as well as future goals, programs, and studies that were carried into the 2035 LRTP.

Figure 5-7; Presentation of Key Visioning Issues

The eleven sections relate to the vision in that each of the 'Issues that Affect Everyone' fall under either one or more sections to communicate past, present, and future planning efforts to achieve the regional vision. Each paragraph is a succinct summary of what was accomplished by each program and what needs to occur to fulfill the program's implementation. After each of the *New Visions 2030* programs and those continued into the *New Visions 2035* are discussed, a section is then dedicated to explore ideas and areas of focus for the future 2040 LRTP, including financial resources.

Inclusion of Regionally Significant Issues

One of the key areas of emphasis in this LRTP is the "commitment to a quality region." This regional emphasis is supported by the integration of 'Issues that Affect Everyone' as a focal point for the plan. By identifying these issues, the CDTC avoids being overly specific in its aims and encourages the plan to promote programs that can be integrated on a regional level. The entire LRTP can be characterized by this broad level focus.

Lessons Learned

The CDTC plan is a unique document in its "transitional" aspect, acting as a bridge between two larger-scale planning efforts for the 2030 and 2040 LRTPs. Each of the areas to be addressed is covered in the topics carried over from the 2030 plan and enhanced for future application in the brainstorming section for the 2040 update.

Vision

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments' (AMBAG) LRTP, *Monterey Bay Area Mobility 2035* stresses the importance of mobility within the bay region. The LRTP provides a good presentation of its regional vision and details the development of the performance measures used to evaluate the ability of the transportation system to address each component of the regional vision for 2035.

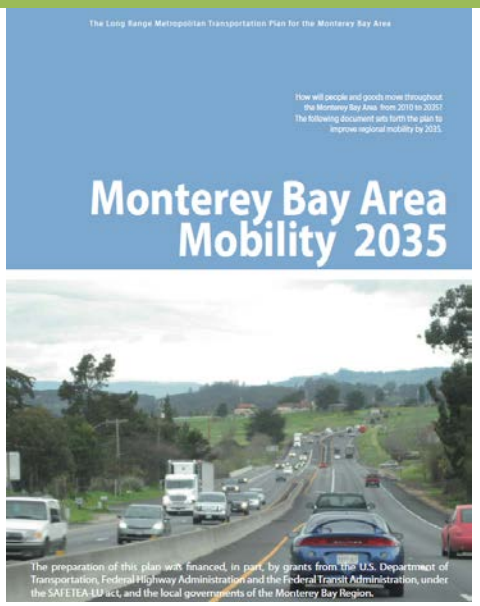


Figure 5-8: Introduction of Vision

Presentation of Vision

The vision is introduced in a four-page chapter located at the beginning of the document as depicted in **Figure 5-8**. The chapter first addresses the intent of the plan and then provides a summary of the geographic features within the region. These introductory paragraphs are then followed by a statement of the "Shared Regional Goals," providing eight key emphasis areas taken from SAFETEA-LU to expand upon AMBAG's original metropolitan transportation goals adopted in 1993. These eight goals include:

- Economic Vitality;
- Accessibility and Mobility;
- Environmental Protection, Quality of Life, and Consistency with Local and State Plans;
- Modal Integration and Connectivity;
- Efficiency in Operations and Management;
- Preservation of the Existing System;
- Safety for Motorized and Non-Motorized Users; and
- Security of Motorized and Non-Motorized Users.

The Monterey Bay Area Transportation Vision for 2035

Increased Regional Mobility in 2035

The 2010 MTP addresses a transportation plan to 2035. Within this 25 year period, the projects and programmatic changes listed in the following pages will increase the overall mobility, safety, and security of people and goods within the region.

In 2035, the region's population will be both greater and older than it is today. Our challenge is to improve mobility for that changing population over the next 25 years.

Geography

The Monterey Bay metropolitan region consists of the Pajaro and Salinas River Valleys and adjacent coastal lowland and mountains surrounding and extending southerly from the Monterey Bay on the Central California coast. The total land area of the three-county (Monterey, San Benito and Santa Cruz) region is 5,157 square miles, or approximately 3.3 million acres.

The region's spectacular coastal sea bluffs, dunes, and river valleys, encircled by the Santa Cruz, Gabilan and Santa Lucia mountain ranges, with the Diablo range to the east, look out over the Monterey Bay. Most of the region is mountainous, with elevations reaching 5,862 ft. above sea level at Junipero Serra Peak in the Los Padres National Forest.

The region is among the world's most renowned for scenic beauty. Additionally, the Monterey Bay has been designated a national marine sanctuary while the Pajaro and Salinas River valleys contain a large share of the most fertile and productive agricultural soils in the nation.

Shared Regional Goals

The 2010 MTP seeks to achieve a coordinated and balanced regional transportation system, which includes mass transportation, highway, railroad, bicycle, pedestrian, goods movement, and aviation facilities and services.

In addition to a balanced and coordinated system, the regional goals seek to:

- Support Economic Vitality of the Monterey Bay Area, by enabling global competitiveness, productivity and efficiency
- Increase the Accessibility and Mobility of People and Goods
- Protect the Environment, Promote Energy Conservation, Improve the Quality of Life, and Promote Consistency between Transportation Improvements and State and Local Planned Growth and Economic Development Patterns
- Enhance the Modal Integration and Connectivity of the Transportation System for People and Goods
- Promote Efficient System Management and Operation
- Preserve the Existing System
- Increase the Safety of the Transportation System for Motorized and Non-motorized Users, and
- Increase the Security of the Transportation System for Motorized and Non-motorized Users

Figure 1. The Monterey Bay Area

11

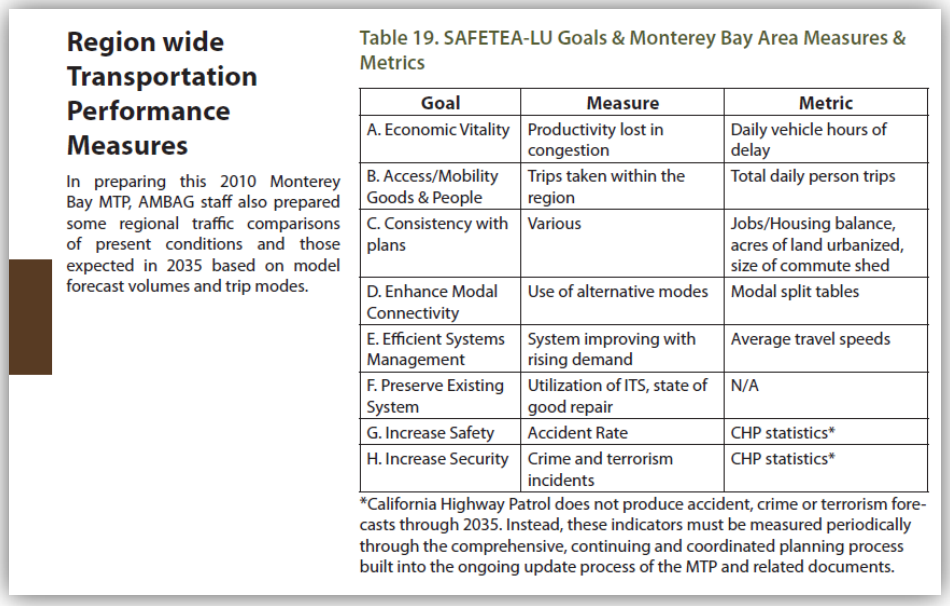
This brief description of the goals is followed by the summary of adherence to state and federal requirements and a specific statement regarding the organizational development of the LRTP. The reader is also referred to a section on 'Policy Elements' which further details each goal appropriated from SAFTEA-LU as it affects specific regional issues.

Implications on the Planning Process

The visioning goals are restated in the 'System Monitoring & Benchmarks' section, uniquely designed to directly acknowledge the broad base on which these visions were founded and describe how each metric from the regional forecasting model is calculated to address a precise aspect of each goal. For example, the LRTP explains the use of daily vehicle hours-of-delay as an indicator of economic vitality (AMBAG explains that less hours of delay facilitate a more vibrant economy, while an increase in hours of delay suggest a strain on the regional economy) and overall mobility is gauged in annual person trips.

Vision

Figure 5-9: LRTP Goal Performance Measurement and Metrics



Region wide Transportation Performance Measures

In preparing this 2010 Monterey Bay MTP, AMBAG staff also prepared some regional traffic comparisons of present conditions and those expected in 2035 based on model forecast volumes and trip modes.

Table 19. SAFETEA-LU Goals & Monterey Bay Area Measures & Metrics

Goal	Measure	Metric
A. Economic Vitality	Productivity lost in congestion	Daily vehicle hours of delay
B. Access/Mobility Goods & People	Trips taken within the region	Total daily person trips
C. Consistency with plans	Various	Jobs/Housing balance, acres of land urbanized, size of commute shed
D. Enhance Modal Connectivity	Use of alternative modes	Modal split tables
E. Efficient Systems Management	System improving with rising demand	Average travel speeds
F. Preserve Existing System	Utilization of ITS, state of good repair	N/A
G. Increase Safety	Accident Rate	CHP statistics*
H. Increase Security	Crime and terrorism incidents	CHP statistics*

*California Highway Patrol does not produce accident, crime or terrorism forecasts through 2035. Instead, these indicators must be measured periodically through the comprehensive, continuing and coordinated planning process built into the ongoing update process of the MTP and related documents.

It is also explained that the forecast model is limited in its ability to assess all vision goals, requiring statistical data from other agencies for system performance measurement and monitoring. **Figure 5-9** is a table from the AMBAG's LRTP that illustrates measures used in the analysis of the LRTP scenarios as they pertain to each goal in the vision and the subsequent metric used for the goal's quantification.

The AMBAG's LRTP exhibits best practice with regard to visioning due to its ability to convey the implications of the visioning goals in terms of performance measurement and analysis. The plan connects goals to model metrics where applicable and explains the statistics or monitoring that will be used in places where model metrics are not applicable. The LRTP transparently addresses the regional vision through illustrating exactly how each element is measured and analyzed.

Inclusion of Regionally Significant Issues

AMBAG's vision statement is titled, 'Shared Regional Goals,' a designation that implies the goals were developed in cognizance of a collective vision for regional transportation improvements. The discussion of government requisites, including California's Sustainable Communities Strategy, California Government Code 65080, and United States Title 23 §134, demonstrates the vision as a reflection of a region wide planning process while linking the LRTP to statewide and national planning processes. Additionally, the 'Regional Trends' section mentions another AMBAG planning study entitled, *Envisioning the Monterey Bay Area*, an evaluation aimed to couple land use and transportation planning with the objective of promoting policies and investments to improve regional mobility. It is clear through the statement of the region's planning and goal development processes that both municipalities and the public had opportunities to participate.

As mentioned above, the 'Policy Elements' section fosters further discussion of the visioning goals set by SAFETEA-LU. The section draws upon five regional issues affecting the Monterey region and adopts goals for mitigation of these regional concerns. Various strategies through which each goal can be obtained are provided at the county-level to specify methods that can be undertaken by each area within the region to improve the area's transportation system. AMBAG exhibits best practice in its adoption and response to national goals but maintains regional focus by identifying regional issues, adjusting goals to meet these issues, and building strategies through which the regional vision can be achieved.

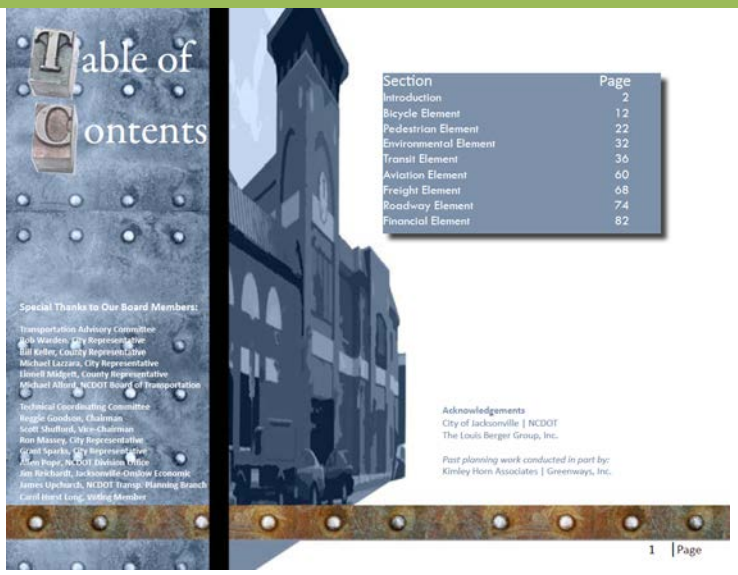
Lessons Learned

The AMBAG's LRTP accommodates a regional vision that considers both state and national issues. The presentation of model and statistical metrics as they relate to the vision's elements expresses LRTP project planning in a common sense approach. Additionally, the consideration of small-scale strategies in addition to national, statewide, and local goals identifies a path on which the regional vision may be achieved.

Vision

Jacksonville Urban Area MPO

The Jacksonville (North Carolina) Urban Area MPO (JUMPO) LRTP is a unique plan with a well-defined vision. The plan is regionally focused and articulated in a user-friendly manner.



Presentation of Vision

The vision for the JUMPO's LRTP is described in the introduction of the document. The vision is a simple sentence which is further elaborated by an outline of eleven categories delineated for achieving this vision. The vision statement is presented below.

"To develop and maintain a safe, efficient, and environmentally compatible transportation system that provides convenient choices for accessing destinations throughout the Jacksonville Urban Area."

The categories speak to the vision statement and provide a summary of what will be incorporated as components of the long range plan. The categories include:

- Eight Planning Factors (as defined by FHWA/SAFETEA-LU);
- Safety;
- Accessibility and Mobility;
- Environment, Energy Conservation, and Quality of Life;
- Enhanced Integration;
- Systems Management and Operations;
- System Preservation;
- Public Involvement;
- Technical Coordinating Committee;
- Stakeholder Interviews; and
- Community Workshops.

Figure 5-10 shows the pages in which the categories pertaining to the vision are described. The JUMPO's plan incorporates both SAFETEA-LU's eight planning factors as well as its own elements. This introduction states the vision, addresses areas that must be considered to facilitate the development and maintenance of a system characterized by the vision, and identifies at which point each category is incorporated into the plan.

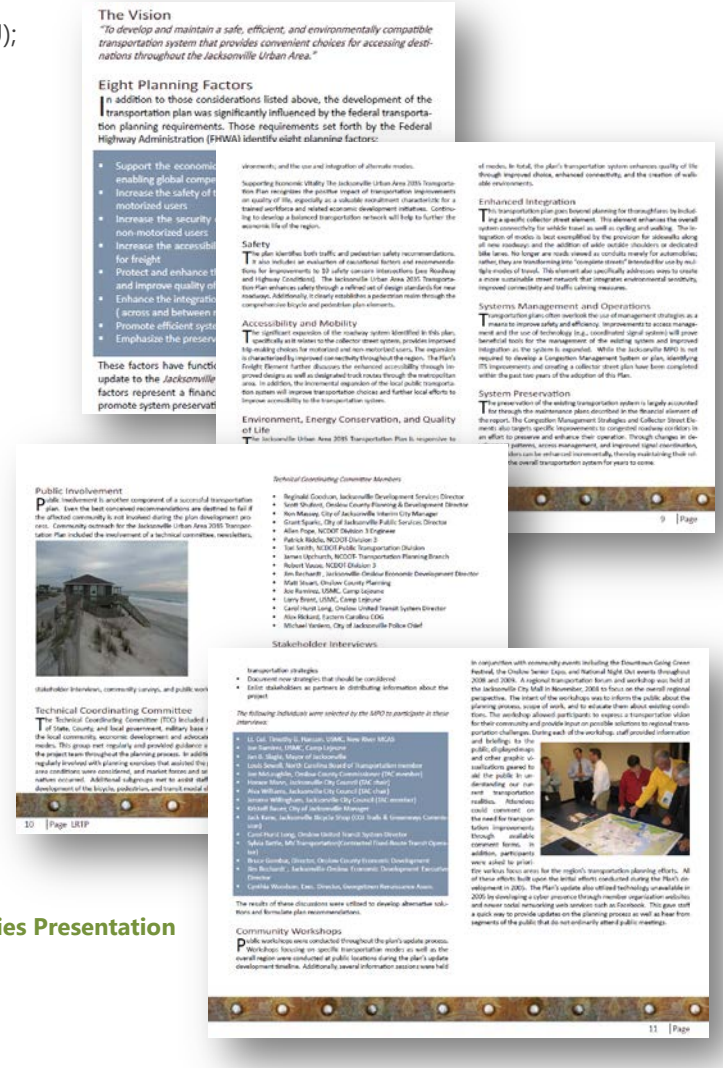


Figure 5-10: Visioning Categories Presentation

Vision

Implications on the Planning Process

As the plan continues, it is divided by its planning elements, including Bicycle, Pedestrian, Environmental, Transit, Aviation, Freight, Roadway and Financial Elements. The paragraphs under each of the categories in the introduction of the plan and vision state where each topic will be addressed. For example, the description of the safety visioning category explains that new roadway design standards and specific intersections selected for safety improvement are discussed in the Roadways Element. The description of accessibility and mobility informs the reader that trip making choices and their effects on system design are discussed in each the Bicycle, Pedestrian, Freight, and Transit Elements of the plan. The category of enhanced integration explains that collector street and complete street concepts are discussed in the Roadways Element. The System Management and Operations and System Preservation category paragraphs specify that maintenance plans are further described in the Financial Element. Public Involvement, Coordinating Committees, Stakeholders, and Workshops are all continuously cited throughout the document to show how these categories were integrated throughout the plan where applicable.

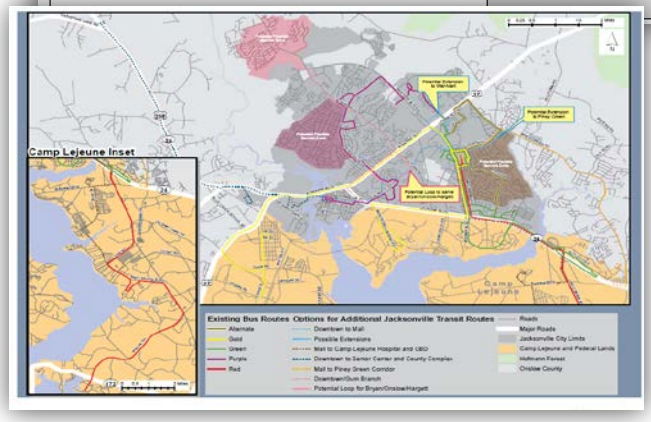
Inclusion of Regionally Significant Issues

While the JUMPO's plan goes as far as to detail specific intersection plans, it maintains a regional perspective. Design standards are provided for roadways throughout the entire region. The plan focuses on regional connectivity across each mode discussed in the plan. A collector street plan and a through street plan were each created to aid in joining different neighborhoods and areas, expanding the regional system, and promoting connectivity.

The Coordinating Committee maintains a regional focus by including leaders from various stakeholder entities and agencies throughout the metropolitan area. Additional stakeholder interviews were also conducted with a similar emphasis on regionalism. The plan even provides an entire discussion on the advantages and disadvantages posed through the creation of a regional transit agency that would encompass the smaller jurisdictional agencies that are in the existing system. The chart is located in **Figure 5-11**.

Figure 5-11: Advantages and Disadvantages to a Regional Transit System

Potential Advantages	Potential Disadvantages
▪ *Allows one entity to focus solely on public transportation.* ▪ *Better coordination of services.* ▪ *Consolidated administrative, planning and service functions, including staffing, maintenance facilities, and contracts.* ▪ *Establishment of regionwide funding sources, where allowed by general statutes, and coordinated pursuit of state and federal sources.* ▪ *Transit does not have to compete for funding with other city or county programs.* ▪ *Can create a common identify for all transit and eliminate negative perceptions associated with particular service types (e.g. "the welfare wagon").* ▪ *Service decisions are typically made from a regional perspective.*	▪ *Loss of local control.* ▪ *Removes authority from existing policy boards and RTA boards are chosen, not elected.* ▪ *Since different parties are required to contribute to a regional authority's financing program, they are more vulnerable to shifts or delays in funding.* ▪ *Regional authority may transfer funding to popular service types based on politics or perception instead of operating efficiencies or public need (e.g. reducing funding for bus services to provide rail services).* ▪ *Regional authority may transfer services from some sectors of the region in favor of others.* ▪ *Potential for short-term loss of jobs due to consolidated functions.* ▪ *Loss of ability for unique services to be able to provide specialized services (e.g. demand response business model vs. fixed route business model).*



Lessons Learned

The JUMPO's LRTP illustrates that an MPO can be creative in the development of its vision, both incorporating national regulatory vision elements, as well as its own ideas to support a unified vision. The JUMPO's LRTP is exceptional in its straightforward introduction of concepts related to its vision, explaining their significance and implications on the plans, and then provides reference to where they will be further articulated in the document, creating a blueprint for the LRTP inclusive of a visioning process. The LRTP also has a strong emphasis on regionalism, while including detailed information by mode.

Vision

Tahoe MPO

The Lake Tahoe Regional Transportation Plan, *Mobility 2030: For the Next Generation* instills a vision by referencing a future generation of citizens on which the 2030 plan will yield the greatest impact.

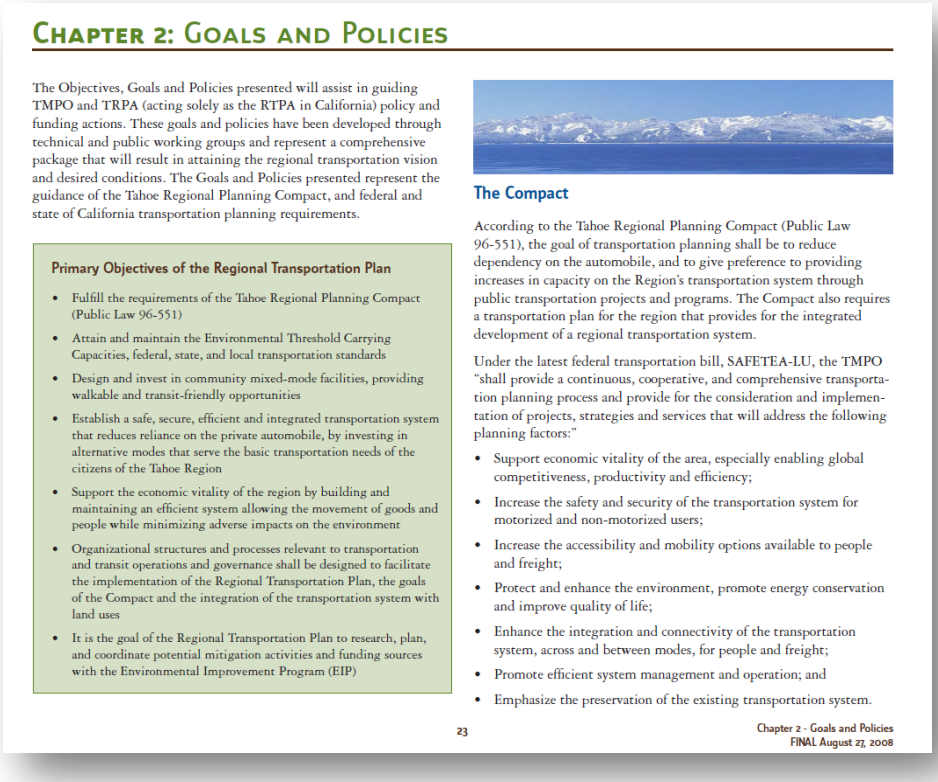
Presentation of Vision

The vision is presented on page seven of the document and is described as the product of a series of public workshops conducted within the region. The document states:

> *"Local vision summaries evolved from these workshops. Transportation emerged as a major theme, and as an outcome of the public process, the transportation vision reads as follows: In 2030, the Tahoe Basin will have a diversity of transportation options that enhance the travel experience and lower environmental impacts. The highways transform into pedestrian-friendly main streets connecting vibrant communities and neighborhoods. Residents and visitors chose a variety of travel modes from walking, biking, alternative fuel buses/shuttles and regular ferry service."*

The Tahoe MPO makes it clear that the vision was a result of community input and thus stresses strong local character. The second chapter outlines objectives, goals, and policies for the Tahoe LRTP, as seen in **Figure 5-12**. First, the primary objectives are introduced in a text box format, and then a series of goals are listed with suggested policies for goal attainment. While the vision itself in this document is a short paragraph, the identification of objectives, goals, and policies for implementation through which the vision statement can be achieved is the essence of the visioning process.

Figure 5-12: Tahoe Objectives, Goals and Policies



CHAPTER 2: GOALS AND POLICIES

The Objectives, Goals and Policies presented will assist in guiding TMPO and TRPA (acting solely as the RTPA in California) policy and funding actions. These goals and policies have been developed through technical and public working groups and represent a comprehensive package that will result in attaining the regional transportation vision and desired conditions. The Goals and Policies presented represent the guidance of the Tahoe Regional Planning Compact, and federal and state of California transportation planning requirements.

Primary Objectives of the Regional Transportation Plan

- Fulfill the requirements of the Tahoe Regional Planning Compact (Public Law 96-551)
- Attain and maintain the Environmental Threshold Carrying Capacities, federal, state, and local transportation standards
- Design and invest in community mixed-mode facilities, providing walkable and transit-friendly opportunities
- Establish a safe, secure, efficient and integrated transportation system that reduces reliance on the private automobile, by investing in alternative modes that serve the basic transportation needs of the citizens of the Tahoe Region
- Support the economic vitality of the region by building and maintaining an efficient system allowing the movement of goods and people while minimizing adverse impacts on the environment
- Organizational structures and processes relevant to transportation and transit operations and governance shall be designed to facilitate the implementation of the Regional Transportation Plan, the goals of the Compact and the integration of the transportation system with land uses
- It is the goal of the Regional Transportation Plan to research, plan, and coordinate potential mitigation activities and funding sources with the Environmental Improvement Program (EIP)

The Compact

According to the Tahoe Regional Planning Compact (Public Law 96-551), the goal of transportation planning shall be to reduce dependency on the automobile, and to give preference to providing increases in capacity on the Region's transportation system through public transportation projects and programs. The Compact also requires a transportation plan for the region that provides for the integrated development of a regional transportation system.

Under the latest federal transportation bill, SAFETEA-LU, the TMPO "shall provide a continuous, cooperative, and comprehensive transportation planning process and provide for the consideration and implementation of projects, strategies and services that will address the following planning factors:"

- Support economic vitality of the area, especially enabling global competitiveness, productivity and efficiency;
- Increase the safety and security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility options available to people and freight;
- Protect and enhance the environment, promote energy conservation and improve quality of life;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

Implications on the Planning Process

The implications of the community vision on the plan are established after each goal statement includes policies recommended for regional implementation. In this sense, the goals developed to meet the vision and the policies are tools through which the vision can be transformed into reality. The statement of each goal and the policies that were formed for that goal's implementation are provided in **Figure 5-13** and **Figure 5-14**.

Pedestrian and Transit-Oriented Development (PTOD)

Goal

Plan for and promote land use changes and development patterns consistent with the Regional Plan, encouraging walkable, mixed-use centers and supporting transportation enhancements and environmental improvements that improve the viability of transit systems.

Policies

A. Mixed-use development strategies are encouraged to be required at key locations around existing and planned transit stops in redevelopment areas.

B. Promote redevelopment that encourages walking, bicycling and easy access to transit stops.

C. Redevelopment is encouraged to employ shared (bundled) parking and other parking management strategies for mixed-use centers where shared parking is managed at a district scale and not site-by-site. There may be a combination of both off-street and on-street parking reinforcing the pedestrian nature of mixed-use centers.

D. Provide economic incentives to redevelopment areas encouraging mixed-use development, transit and parking incentives, walking and bicycling facilities. These incentives include, but are not limited to: minimum and maximum parking standards, and grants to help pay for transit, sidewalk and bicycle facility construction.

E. Site planning and design will seek to emphasize transit, walkability and pedestrian-friendly features and respond to a variety of site conditions and context.

F. Creation of a "park once" environment is encouraged allowing access to local services thus reducing trip generation for errands and other activities and encouraging residents and visitors to use transit for trips within the basin.

G. Redevelopment is encouraged to make use of existing transportation facilities. At priority locations, facilities should be expanded and encouraged with appropriate economic incentives.

H. PTOD sites are recommended to be designed with sensitivity to the local context and honoring the difference in scale between the North Shore and South Shore.

Pedestrian & Bicycle Friendly Communities

Goal

Design an atmosphere that encourages bicycle and pedestrian usage as a viable and significant mode of transportation at Lake Tahoe.

Policies

A. The RTP and Lake Tahoe Region Bicycle and Pedestrian Master Plan (Bike/Ped Plan) shall contain a list of existing and proposed bicycle and pedestrian facilities and policies for the development of any new bicycle/pedestrian facilities in the Lake Tahoe Region.

B. Pedestrian and bicycle facilities consistent with the RTP and Bike/Ped Plan shall be constructed, upgraded and maintained.

C. There shall be a high priority on constructing pedestrian and bicycle facilities in urbanized areas and in areas that increase connectivity of the bicycle network.

D. Commercial and residential development and redevelopment shall promote pedestrian and bicycle access equal to or greater than private vehicle access.

E. Bicycle storage capacity shall be increased at commercial and recreational areas, transit centers, lodging properties and government buildings.

F. Intersections and driveways shall be designed and sited to minimize impacts on public transportation, adjacent roadways and intersections, and conflicts with bicycle and pedestrian facilities.

G. Projects funded all or in part with TMPO administered funding shall include the accommodation of bicycle and pedestrian facilities in the earliest stages of project development. The TMPO shall not release funds for projects that do not show accommodation of bicycle and pedestrian needs.

H. Bicycle and pedestrian linkages shall be provided between residential and non-residential areas.

I. Maintenance policies for bicycle and pedestrian facilities should reflect usage and consider maintaining routes to allow for year-round use of the facilities where appropriate.

J. Promote the incorporation of programs and policies of the Bike/Ped Plan into regional and local land use plans and regulatory processes.

K. Safety awareness signage, road markings and educational programs, as well as programs that encourage bicycling and walking, shall be implemented where appropriate.

Mass Transit

Goal

Actively encourage the development and implementation of services and programs to expand the operation and use of environmentally conscious public transit in the Lake Tahoe region.

Policies

A. Public or private mass transit services shall be given preference in mitigating traffic and transportation related impacts for new projects or redevelopment areas.

B. Improvements to existing transit systems such as increases in frequency, expansion of service area, or extension of service hours will be encouraged and supported, as appropriate.

C. Transit facilities shall be provided that encourage transit usage and pedestrian and bicycle use through their designs.

D. Where existing parking lots may facilitate additional transit ridership, "Park and Ride" facilities should be pursued.

E. New transit vehicles shall seek to maximize bicycle carrying capacity using best available technology.

F. Fare options such as free fares, deeply discounted passes, or other fare alternatives will be investigated and implemented, where appropriate.

G. Transit service shall be provided to major summer and winter recreational areas.

H. The expansion of private and public transit excursion services shall be encouraged in the region.

I. Dedicated transit rights-of-way shall be acquired where feasible.

J. Public transit fleets shall utilize alternative fuels to the maximum extent feasible to reduce emissions.

K. Public transit services shall be operated efficiently and effectively.

Mobility

Mobility was an important regional planning theme that emerged from both the local community and public lands workshops. Participants stressed a need for flexible transportation systems with choices for residents, visitors, and employees during both peak and off-peak seasons; providing an opportunity to generate significant environmental improvements. On a regional scale, several elements must be considered to make improved mobility a reality.

- Improve the convenience and frequency of transit services
- Provide transit services to recreation sites, trailheads and bike trails
- Improve Washoe Tribe access/mobility options

Aviation

Goal

Air service will be encouraged and maintained to the extent that it increases mobility and public safety and security without compromising environmental thresholds.

Policies

A. The Airport Master Plan/Settlement Agreement shall be updated.

B. Aviation facilities within the Tahoe Region shall be limited to existing facilities.

C. Expansion of aviation facilities shall be limited to service levels identified in an updated TRPA approved Airport Master Plan.

Regional Revenue

Goal

Develop on-going sources of regional revenue to fund the local share of transit, bicycle, and pedestrian and other non-auto-transportation improvements, operations, and maintenance.

Policies

A. Research and pursue sources of regional revenue such as parking fees, and other sources of local or regional revenue.

B. Recognize that the success or failure of many transportation systems is linked to local/regional funding sources, particularly for transit operating subsidies.

C. Acknowledge that appropriate local/regional funding mechanisms are bound by legislative and legal constraints that are solved at the local jurisdictional level.

Technology

Goal

The utilization of Intelligent Transportation Systems (ITS) technology shall be considered and implemented, and technology should be used to increase usage of alternative modes.

Policies

A. Develop and maintain real-time information services available on changeable message signs, via the internet and over the telephone for road conditions, transit services, and bicycle routes.

B. Electronic and automated payment systems shall be investigated and implemented for transit systems and parking areas.

C. Consider implementation measures consistent with the Tahoe Basin ITS Strategic Plan, including Traffic Management, Traveler Information Services and Emergency Management Techniques.

What is ITS?

ITS improves transportation safety and mobility and enhances productivity through the use of advanced communications technologies.

Intelligent transportation systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronic technologies. When integrated into transportation system infrastructure, and included in vehicles themselves, these technologies can help monitor and manage traffic flow, reduce congestion, direct road users to alternate routes when necessary, enhancing productivity, saving lives, time and money. The Lake Tahoe Region is uniquely positioned for the utilization of ITS technologies to better manage the existing transportation network while not increasing roadway capacity.

For an overview of ITS applications, please visit: http://www.itsoverview.its.dot.gov.

ITS Newsletter

Inter-Intra Regional Transportation

Goal

Strengthen inter- and intra-regional transportation options into the Lake Tahoe Region that reduce dependency on the automobile.

Policies

A. Participate in state and local transportation planning efforts to ensure coordination and consistency in the transportation system, and to strengthen linkages of both inter and intra-regional transportation.

B. Transit service shall be expanded to cities, towns, and recreational areas outside of the Tahoe Region, and be coordinated with other transportation modes.

C. Work with appropriate public entities, tribal governments, and private interest groups in the region to ensure coordination and consistency in transportation planning efforts.

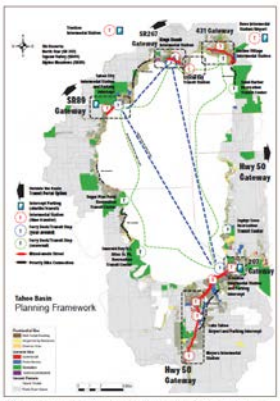
D. Implement the recommendations of the Interregional-Intraregional Transit Study, including the South Shore and Incline Vanpool Program, North Shore Shuttle Service, Summer Lake Lapper and South Shore –Sacramento Bus Service.

E. Actively support Transportation Management Associations (TMAs) in the Tahoe Region.

F. Work with organizations (including the Lake Tahoe Transportation and Water Quality Coalition) that advocate and facilitate public-private partnerships, new sources of funding, and seek coordination among various transit operators and providers for the benefit of improved transportation in the Lake Tahoe Region.

G. Encourage clean waterborne transportation systems as an alternative to automobile travel within the Region. Coordinate waterborne services with, and provide access to, other public and private transportation systems.

H. Actively encourage the proposed extension of the Capital Corridor intercity rail service between Auburn, Truckee-North Lake Tahoe and Reno and other intercity rail or high capacity transit services, including such services along the Highway 50 corridor between Sacramento and South Lake Tahoe.



Note: The graphic on page 43 shows waterborne routes proposed

Figure 5-13: Tahoe Goals and Policies

Vision

Figure 5-14: Tahoe Goals and Policies

Economic Vitality

Goal

Support the economic vitality of the region by preserving and enabling an efficient system to move people and goods.

Policies

A. Develop and track measures of economic vitality related to transportation i.e. traffic and pedestrian counts, employment, hotel-motel occupancies, and other visitation trends.

B. Develop a fully-integrated, multi-modal transportation system to serve as a catalyst for attracting business and employment opportunities for both current and future residents of the Tahoe Region.

C. Influence land-use policies to improve access to jobs, services and housing by using market forces and the regulatory process.

D. Enhance the economic vitality of the Tahoe Region by efficiently connecting people to jobs, goods, services and other communities.

E. Support public-private partnerships and business improvement districts for planning, financing, and implementation of transportation and air quality programs and projects.

Parking

Goal

Develop parking management strategies for the Lake Tahoe Region.

Policies

A. Encourage parking management programs that provide incentives to fund improvements benefiting transit users, pedestrians, and bicyclists.

B. Encourage parking management that recognize: minimum and maximum parking standards, payment in-lieu strategies, shared parking between uses, on-street parking, parking along major regional travel routes, handicapped–disabled parking, bicycle parking and the implementation of localized parking management programs that focus on transit, bicycle, and pedestrian improvements.

C. Coordinate with business community and key stakeholders in the development and implementation of any parking management strategy or other potential sources of basin-wide local funding.

Transportation Demand Management

Goal

Manage (and respond to) transportation demand through traffic management plans.

Policies

A. Encourage employers to implement vehicle trip reduction programs, including but not limited to: carpool and vanpool matching programs, employee shuttles, on-site secure bicycle storage and shower facilities, flexible work hours, parking and transit use incentives.

B. The TMPO shall facilitate the TMA's coordination of Chapter 97 (Employer-Based Trip Reduction Program) of the TRPA Code of Ordinances.

C. The TMPO working with the TRPA shall require the development of traffic management plans consistent with temporary seasonal activities. These management plans shall account for the coordination and timing of other activities that may occur simultaneously.

Regional Roadways

Goal

Upgrade regional roadways as necessary to meet environmental requirements and objectives, improve safety, address community design objectives, and provide for a more efficient, integrated transportation system.

Policies

A. Roadway projects designed to correct hazardous roadway conditions shall be encouraged, provided such projects are restricted to needed safety improvements.

B. Transportation system management (TSM) measures (such as dedicated turn lanes, intersection improvements, signal synchronization, etc.) shall be used to improve the efficiency and safety of the existing transportation system.

C. Intersection improvements required to upgrade existing levels of service including lane re-striping, turn lanes, roundabouts and signal synchronization shall be implemented when warranted.

D. View turn-outs should be provided along scenic highways to maintain traffic flow and improve safety.

E. Traffic conflicts shall be reduced by limiting or controlling access to major regional travel routes and major local roadways. Driveways shall be designed and sited to minimize impacts to regional traffic flow and safety.

Transit-Dependent Groups

Goal

Improve the mobility of the elderly, handicapped, traditionally under-represented and under-served populations and other transit-dependent groups.

Policies

A. Provide specialized public transportation services with subsidized fare programs for transit, taxi, demand response and accessible van services.

B. Ensure that transit and pedestrian facilities, including transit shelters, vehicles, sidewalks and shared-use paths, as well as all new public developments are consistent with the TMPO Coordinated Human Services Transportation Plan.

Inclusion of Regionally Significant Issues

Each goal's policies are written to incorporate regional planning themes so they can be applied on a broad scale, thus emphasizing the desire to incorporate regionalism. For example, the first objective in the LRTP is to fulfill the requirements of the Tahoe Regional Planning Compact (Public Law 96-551) by decreasing the dependency on automobile travel and increasing the role of public transit projects and programs in the development of a connected regional transportation system. This objective reiterates goals for the 'Pedestrian and Transit-Oriented Development,' 'Pedestrian and Bicycle Friendly Communities,' 'Mass Transit,' and 'Transit-Dependent Groups.'

Lessons Learned

The integration of vision, goals, and objectives in this LRTP demonstrates the plan's ability to create a vision, outline objectives and goals that quantify and qualify that vision to set forth a variety of policies that can be used as a channel through which a simple yet regional vision can be accomplished. The Tahoe MPO does an exceptional job of creating an LRTP with a vision that can be easily achieved simply through the implementation of its outlined policies.

Summary

Findings

The intent of this study is to identify aspects of Long Range Transportation Plans (LRTP) that are exemplary and can be considered best practice in terms of a specific criterion. It must be conceded that the four criteria need to be balanced and in some cases a model LRTP for one criterion may not be a model for others. **Table 6-1** provides a summary of each of the LRTPs selected as a best practice and is summarized by its most outstanding factor identified in the review.

Table 6-1: Summary of Best Practice Review by MPO

Criteria	Agency	Distinguishing Factor	Pages
Length	East-West Gateway Council of Government	Unified Appendix Report	35
	Houston-Galveston Area Council	Simplicity in Presentation	66
	Wilmington Area Planning Council	Concise Language	29
	Wilmington Urban Area MPO	Structure and Appendices	27
	Cache MPO	Compactness	47
	Dixie MPO	Straightforward Information	40
Clarity	New York Metropolitan Transportation Council	Articulation of Process	232
	Metropolitan Transportation Commission	Educational Language	100
	Council of Fresno County Governments	Chronological Succession of Topics	419
	Durham-Chapel Hill-Carrboro MPO	Communication of Ideas	105
	Ulster County Transportation Council	Explanatory Text	196
	Gainesville-Hall MPO	Justification of Plan	203
Graphics	Southern California Association of Governments	Story-Telling Graphics	217
	Delaware Valley Regional Planning Commission	Innovative Illustrations	145
	Indian Nations COG	Use of Mapping	162
	Greenville-Pickens Area Transportation Study	Local Imagery	190
	Rapid City Area MPO	Data and Conceptual Presentation	193
	East Central Intergovernmental Association	Plan Visualization	184
Vision	National Capital Region Transportation Planning Board	Illustrating the Vision	88
	Baltimore Regional Transportation Board	Building the Vision	217
	Capital District Transportation Committee	Regionally Focusing the Vision	24
	Association of Monterey Bay Area Governments	Measuring the Vision	145
	Jacksonville Urban Area MPO	Framing the Plan with the Vision	93
	Tahoe MPO	Implementing Goals and Policies for the Vision	142

The conclusion that can be drawn from this review is that a balance must exist in the development of an LRTP. A report with exceptional graphics will likely be longer than a report with fewer graphics. Graphics will typically lengthen the number of pages in a report as they require more space. Reports lauded for their length (or lack thereof) may, but not necessarily, lack clarity due in part to a potential absence of detail or necessary explanatory information relegated to appendices. An LRTP with tremendous clarity may utilize too few or too many graphics due to a dependency on text or visual imagery to deliver information. Vision, a criterion rather indirectly related to each of the other criteria, is reliant on length, graphics, and clarity to appropriately portray its significance in the LRTP's development, presentation, and implementation. It is critical to maintain a well-rounded focus of these elemental criteria to effectively illustrate the plan's vision and how it will be achieved in a user-friendly format.

Summary

Implications for Florida LRTPs

Figure 6-1 shows the importance of balance between clarity, length, and the inclusion of graphics as they all are used to convey the overarching vision of the plan. While it is impossible to quantify each criterion, with the exception of page length, the most effective means of prescribing best practices in the development of a LRTP would be the subjective balancing of each of the elements to create a succinct, intelligible, and attractive document that would relay a distinct vision of the plan in a user-friendly way. **Figure 6-2** illustrates how each of these components can be applied to the LRTP planning process in Florida to help create citizen-friendly documents.

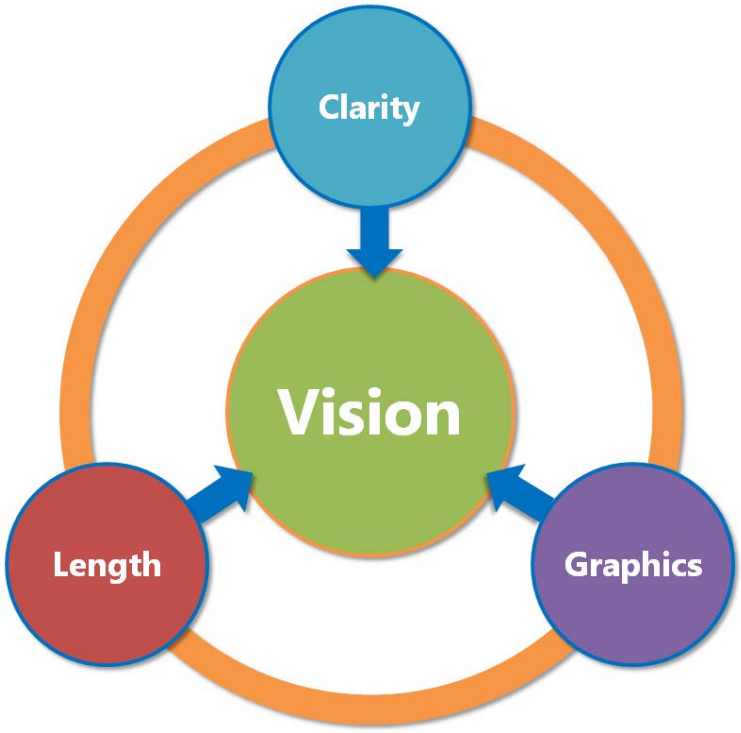


Figure 6-1: LRTP Development of Criteria

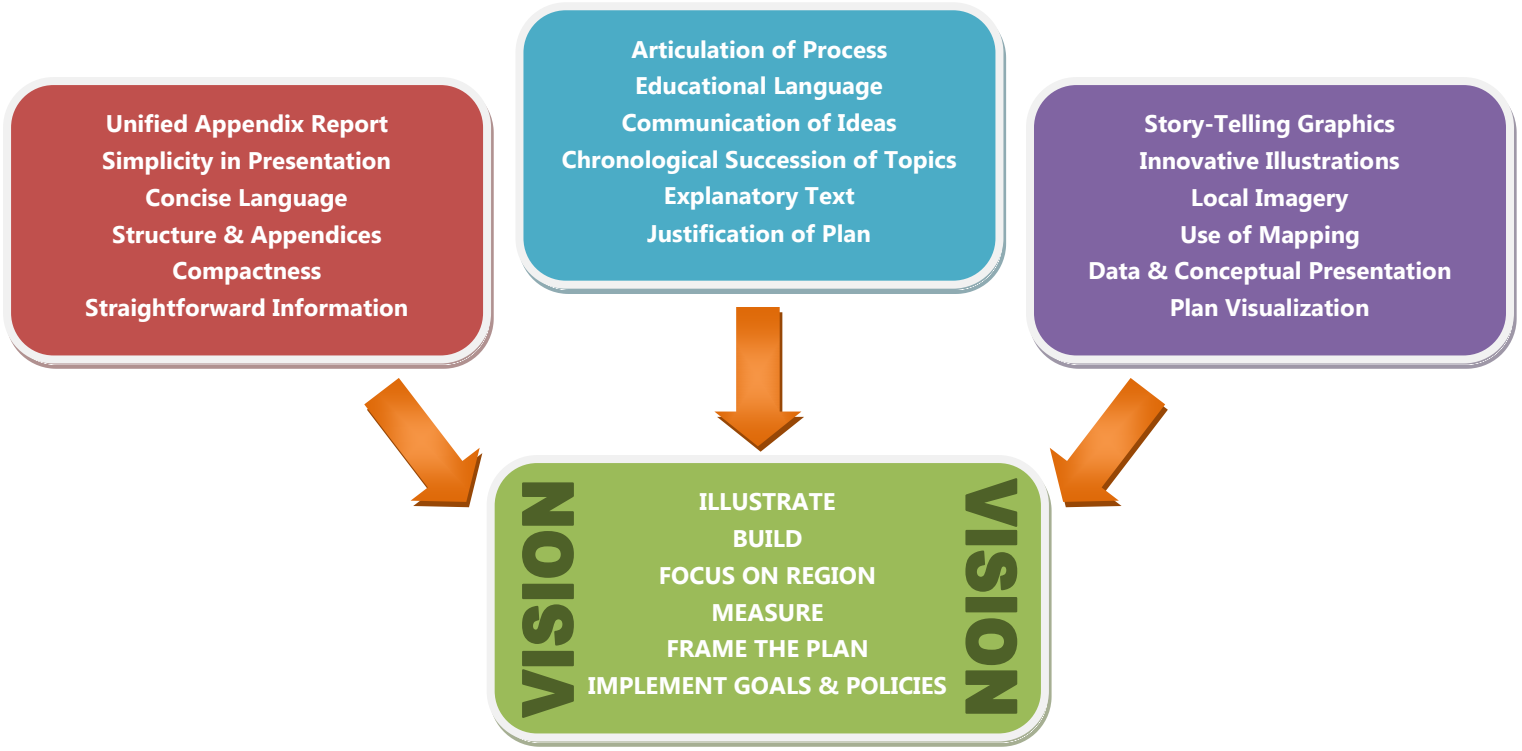


Figure 6-2: LRTP Basis for Best Practice

Appendix

Overview

The review of national LRTP "best practices" examined plans from around the country. Although Florida is a leader in transportation planning, LRTPs from Florida MPOs were excluded from this review. The national LRTP best practices evaluation advanced through these five key steps:

1. Categorize MPOs by Population and Location
2. Conduct Initial Review of LRTPs from Major Metropolitan Areas
3. Develop Criteria to Review LRTPs
4. Coordinate with FHWA and MPOAC
5. Evaluate Select LRTPs

Step 1 – Categorize MPOs

An initial step in the review of National LRTP best practices was to develop a spreadsheet/database of all 384 MPOs throughout the country using the Federal Highway Administration's (FHWA) database. The MPOs were then divided by size and region to assess the geographic distribution of small, medium and large sized MPOs throughout the country.

MPO Size

- Large MPOs – greater than 1 million people
- Medium MPOs – less than 1 million but greater than 200,000 people
- Small MPOs – less than 200,00 people (non-TMA MPOs)

MPO Regional Location

- Northwest
- North Central
- Northeast
- Southwest
- South Central
- Southeast

Step 2 – Initial Review

Once all of the MPOs were classified by size and geography, websites from the 20 most populated MPOs throughout the country were accessed to locate a copy of their most recent LRTP and to assess the overall user-friendliness of the websites, including accessibility of the LRTP on the web. Once the 20 MPO websites was accessed, each LRTP was reviewed with regard to its overall appearance, content, and user-friendliness. Notes were developed for each LRTP to record the planning year, graphic quality, accessibility, content division, and other noteworthy characteristics of the plans. From this review, the following observations were noted.

Appendix

Key Observations

The initial review highlighted that the selection of LRTPs exhibited many of the same properties that could be considered "best practices," such as:

- Effective Use of Maps/Images/Visualizations;
- Branding the Plan;
- Eliminating Walls of Text;
- Citizen-Friendly Language;
- Clear Public Involvement/Feedback Opportunities;
- History/Timeline Illustrating New & Former Projects;
- Quantifying Effectiveness; and
- Logical Order of Report Chapters.

Step 3 – Criteria Development

Of the remaining 339 non-Florida LRTPs, 137 were randomly selected by geographic location and population to briefly assess five categorical elements related to LRTP citizen-friendliness: (1) length, (2) accessibility, (3) graphics, (4) clarity, and (5) overall citizen-friendliness. Each criterion was ranked on a scale from 1 to 5 as show in **Table A-1**.

Table A-1: Vision Ranking Scale

LRTP Assessment					
Score	**1**	**2**	**3**	**4**	**5**
Length (not including appendices)	300+ Pages	200-300 Pages	100-200 Pages	50-100 Pages	1-50 Pages
Accessibility	Could Not Locate	Difficult to Locate on Website	Somewhat Difficult to Locate on Website	Fairly Easy to Locate on Website	Very Easy to Locate on Website
Graphics	Limited to No Graphics, Poor Quality	Limited Graphics, Poor Quality	Limited to a Number of Graphics, Decent Quality	Number of Graphics, Decent to High Quality	Number of Graphics, High Quality
Clarity	Writing is not Organized/Clear, Difficult to Locate by Topic	Writing is Somewhat Organized/Clear, Difficult to Locate by Topic	Writing is Somewhat Organized/Clear, Somewhat Easy to Locate by Topic	Writing is Organized/Clear, Easy to Locate by Topic	Writing is Very Organized/Clear, Very Easy to Locate by Topic
Overall	Plan does not outwardly convey purposes/plans, or exhibit user friendliness.	Plan somewhat conveys purposes/plans, and exhibits user friendliness.	Plan conveys purposes/plans, and exhibits user friendliness.	Plan conveys purposes/plans well, and exhibits high user friendliness.	Plan exceeds expectations in conveying purposes/plans, and exhibits high user friendliness.

Appendix

Step 4 – Coordination

Three coordination briefing meetings were held to discuss the preliminary review of LRTP best practices. The first meeting was conducted with the Federal Highway Administration (FHWA), another with the Executive Director of the Florida Metropolitan Planning Organization Advisory Council (MPOAC), and a third meeting with the MPOAC's Policy & Technical Subcommittee. The meetings were used to brief these agencies on the project's status and to gain input and suggestions for the next stages of the project. Based on feedback from these meetings, an additional criterion was added to the review process—Visioning. It was noted that a common feature of LRTPs with the highest scores possessed a coherent vision.

Visioning Assessment

As a result of that feedback a "vision" criterion was incorporated into the review process, using the ranking scale summarized in **Table A-2**.

Table A-2: Vision Ranking Scale

LRTP Assessment					
Score	**1**	**2**	**3**	**4**	**5**
Vision	No Vision Communicated	Vision is Unclear and/or Underemphasized	Vision is Somewhat Clear and is Referenced in the Document	Vision is Clear and is Emphasized throughout the Document	Vision is Specific, Clear, and Illustrated and it is Emphasized throughout the Document

The above scoring was used to assess the visioning strategies of LRTPs and factor these scores into the overall scores in conjunction with the previous scores of the other criteria. Due to time constraints and the large number of LRTPs reviewed in the first round, "vision" scores were assessed only for LRTPs that received a ranking of a 5 from the initial assessment.

Therefore, a total of 33 LRTPs were reviewed to assess the "vision" element of each plan. LRTPs were assigned scores in this category based on the criteria above, and their overall scores were subsequently adjusted, taking "vision" into account.

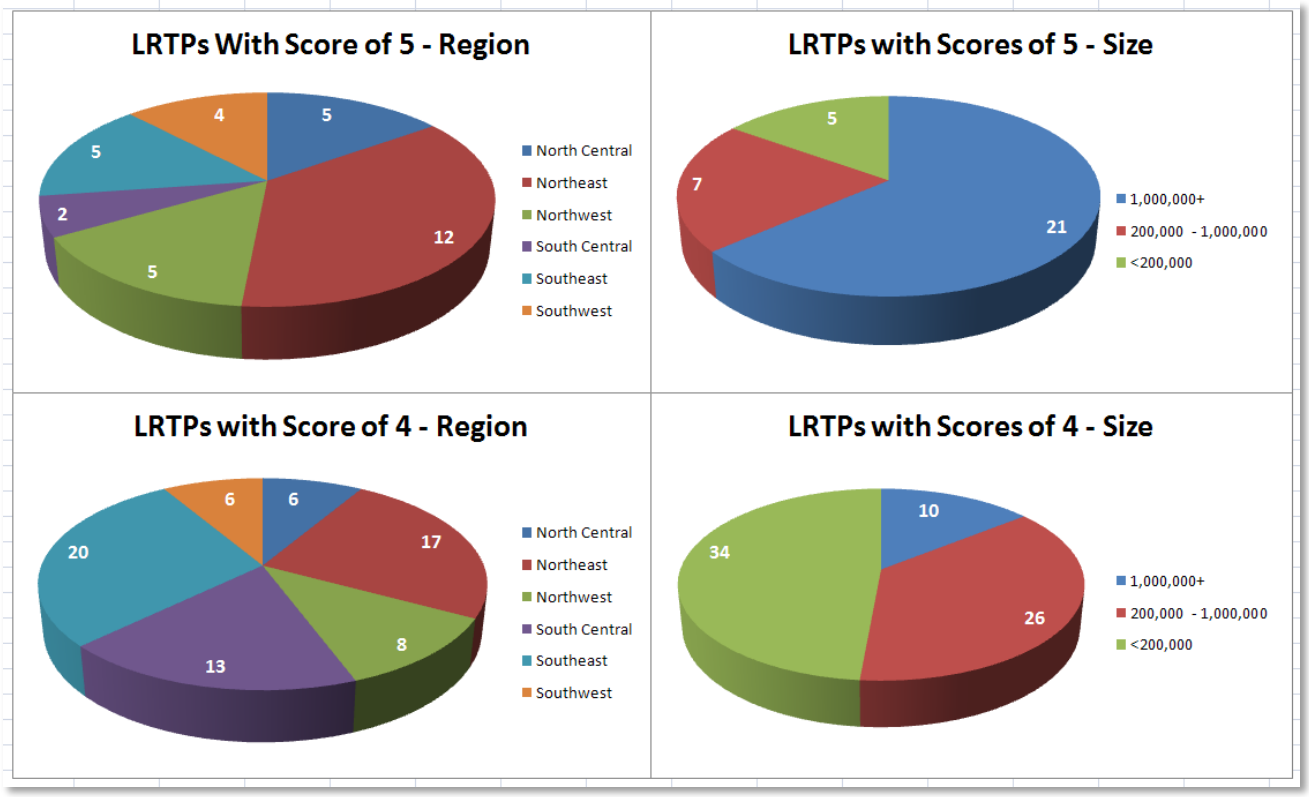
Step 5 – LRTP Evaluation

The initial methodology for evaluation was to assess LRTPs from around the country and provide a list of 18 LRTPs, based on MPO population size and spatial location, for FDOT to review. From this list of 18 LRTPs, FDOT would recommend a final list of six LRTPs to be documented and reviewed for incorporation in the final report. Based on the initial review, this methodology did not appear to be the most effective means for assessing LRTPs for two key reasons. First, there were several instances in which particular LRTPs excelled in only one or two best practice criteria. Therefore, it was determined beneficial to highlight LRTPs that exhibit best practice by individual category rather than on an overall basis. Second, the LRTPs selected as examples of best practice were not evenly distributed with regard to population size and regional groupings employed in the preliminary analysis.

Appendix

Figure A-1 illustrates the distribution of LRTPs scores by region and size. A major concentration of the LRTPs that scored a 5 or 5+ are located in the Northeast and disproportionately come from MPOs with populations greater than 1,000,000 people. The distribution for LRTPs that received a score of 4 is still heavily skewed towards the east, although the distribution by MPO population size is more evenly spread. Therefore, the selection of LRTPs to be reviewed for best practices was determined by LRTPs scoring on the four criteria of: length, clarity, graphics, and vision.

Figure A-1: Distribution of LRTPs by Region and Size



The "overall" assessment criterion was not included in the analysis because it was only used as a means to assess an LRTP's overall condition. As the scope of the project evolved to focus on LRTPs based on individual criteria, the need to incorporate an "overall" criterion became superfluous.

Appendix

Websites for MPOs

Criteria	Agency	Website
Length	East-West Gateway Council of Government	www.ewgateway.org
	Houston-Galveston Area Council	www.h-gac.com
	Wilmington Area Planning Council	www.wilmapco.org
	Wilmington Urban Area MPO	www.wmpo.org
	Cache MPO	www.cachempo.org
	Dixie MPO	www.dixiempo.org
Clarity	New York Metropolitan Transportation Council	www.nymtc.org/
	Metropolitan Transportation Commission	www.mtc.ca.gov/
	Council of Fresno County Governments	www.fresnocog.org/
	Durham-Chapel Hill-Carrboro MPO	www.dchcmpo.org/
	Ulster County Transportation Council	www.co.ulster.ny.us/planning/tran.html
	Gainesville-Hall MPO	www.ghmpo.org/
Graphics	Southern California Association of Governments	www.scag.ca.gov/
	Delaware Valley Regional Planning Commission	www.dvrpc.org/
	Indian Nations COG	www.incog.org/
	Greenville-Pickens Area Transportation Study	www.greenvillecounty.org/gcpc/transportation_planning/gpats.asp
	Rapid City Area MPO	www.rcgov.org/Transportation-Planning/mpo.html
	East Central Intergovernmental Association	www.ecia.org/
Vision	National Capital Region Transportation Planning Board	www.mwcog.org/transportation/tpb/
	Baltimore Regional Transportation Board	www.baltometro.org/
	Capital District Transportation Committee	www.cdtcmpo.org/
	Association of Monterey Bay Area Governments	www.ambag.org/
	Jacksonville Urban Area MPO	www.jumpo-nc.org/
	Tahoe MPO	www.tahoempo.org/

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