Inter-institutional communication in plan development: A case study of Imagine Austin – Austin, TX

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Inter-institutional Communication in Plan Development

A Case Study of Imagine Austin – Austin, TX

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Iowa State University
Ames, Iowa
2020
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Acknowledgements:

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**Introduction**

Communication is a primary component of the planning profession. Planning is dependent on a broad scope of communicative activities, each of which influences outcomes of planning practice. “The goal of planning is to maximize the health, safety, and economic well-being of all people living in our communities […] Planners take a broad view and look at how the pieces of a community — buildings, roads, and parks — fit together like pieces of a puzzle. Planners then make recommendations on how the community should proceed.” (planning.org, 2020). To formulate the broad view that planners must have of a community, it is important to communicate not only with community members, but with other planning professionals to develop the most beneficial recommendations for the community. Therefore, the need to better understand communication networks between planning professionals is pertinent to the practice (Baum, 1983; Innes, 2007 Norton & Sadler, 2006).

Progression of the metaphorical puzzle of communities is reliant on cooperation between the various pieces that form a community. “Successful implementation and ultimate influence of plans requires that plans embrace a sufficient scope of interdependent actions taken by various organizations.” (Berke et. al., p.73, 2006) Communication between planners and the clients or communities they serve has been studied in many capacities (Al-Kodmany, 2001; Beauregard, 2013; Norton & Sadler, 2006), however, inter-institutional communication between planning professionals has been neglected (Norton and Sadler, 2006). Communication influences the way communities are shaped physically and socially (Matsaganis, et. al. 2013), therefore, various aspects of communication in community planning should be studied to provide guidance regarding the influence of communication patterns on communities. This research expands upon the existing literature of communication in planning by investigating patterns of inter-
institutional communication in plan development as well as within the comprehensive plan as a technical communication artifact.

Technical communication has been studied in specific fields such as medicine, architecture, and accounting (Abbott, 1988), yet professionalization and technical communication are rarely explicitly addressed in the field of planning. Technical communication is, "any form of communication that focuses on technical or specialized topics, communicates specifically by using technology or provides instructions on how to do something." (Society for Technical Communication, 2019). Research regarding communication in planning is primarily focused on public participation and media relations (Williamson & Parolin, 2012). Communication strategies of planning, specifically between sectors housed within the field of planning is deserving of attention because the results shape our reality.

The American Planning Association (APA) is a non-profit organization that, among other responsibilities, houses the American Institute of Certified Planners (AICP) – the certification of planning competency (APA, 2020). The APA provides a Communications Guide as a resource housed under their Policy and Advocacy section of their website which includes six sections of focus: 1 - Messages; 2 - Media 101; 3 - Social Media; 4 - Allies and Partners; 5 - Contentious Issues; and 6 - National Community Planning Month (APA, 2020). While public outreach and media relations are vital aspects of communication in planning, collaborative efforts in planning “depend centrally on interorganizational cooperation” (Takahashi & Smutny, 2001, p. 150).

While the subjects covered in the APA Communications Guide are important, professional and technical communication patterns are not addressed, nor is the comprehensive plan as a communicative piece. A comprehensive plan is developed by and utilized as communication. A comprehensive plan is created through communication with community
members, stakeholders, and local officials to determine what features will best serve the community. Comprehensive plans in turn act as technical communication as they guide professionals to enact the needs established through the plan development process.

The comprehensive plan Imagine Austin was developed through communication with 18,532 Austinites over a span of two years. The initial plan was adopted in 2012 and is updated annually (Imagine Austin, 2012). Austin, TX is widely known as a progressive city. Between 2000 and 2010, Austin’s population increased by 20 percent, an astronomical growth compared to the nation’s growth rate of 0.7 percent (census.gov, 2018). In 2011, Austin’s estimated cost of living index was 93. Compared to the national average of 100 and comparable regions such as San Diego, CA of 131, Austin maintained affordability through extreme growth (Imagine Austin, 2012). The time frames addressed in this study are those leading to the development of Austin’s comprehensive plan, Imagine Austin. The City’s ability to maintain affordability through rapid growth, along with the extensive use of public participation in the development of Imagine Austin, make Austin a great example to investigate communication patterns in inter-institutional planning.

The primary objective of this study is to provide insight into inter-institutional communication patterns used to develop technical communication pieces, specifically, comprehensive plan development. Comprehensive plans guide planners as they transition communities into their futures (Altshuler, 1965), thus the instructional nature of a comprehensive plan qualifies it as technical communication. The technical communication artifact examined in this study is the comprehensive plan Imagine Austin.
Imagine Austin is a 348-page document designed to guide the growth of the city. It is divided into five chapters, each with subchapters. The five main chapters of Imagine Austin are as follows:

- Chapter 1: The Roadmap and the Road Ahead
- Chapter 2: Experiencing Austin: Who Are We Today?
- Chapter 3: Imagining Austin: Our Visioning of a Complete Community
- Chapter 4: Shaping Austin: Building the Complete Community
- Chapter 5: Implementation and Measuring Success

Chapters two and four are the primary pieces of research for this study.

This study begins with a review of literature regarding communication, community planning, and the intersection of the two. Following the literature review is a description of methods used to conduct the research which includes content analysis of technical communication in planning utilizing Imagine Austin as the technical communication piece and questionnaire responses from individuals involved with the development of the plan. We will then discuss the results and analysis of the research. We will conclude with implications and limitations of the study, along with recommendations for future research regarding inter-institutional communication patterns in planning. Research was guided by the following questions:

- What are current trends in inter-institutional communication for comprehensive plan development in Austin, TX?
- How is inter-institutional communication reflected in technical communication artifacts (comprehensive plans)?
Community Planning

“Planning is a systematic, creative way to influence the future of neighborhoods, cities, rural and metropolitan areas, and even the country and the world.” (ASCP, 2020) Cities have been deliberately planned for multiple millennia. Archaeological evidence supports that ancient civilizations such as the Indus Valley Civilization were incredibly advanced in infrastructure. Indus Valley sites such as Harappa, Pakistan and Dholvira, India were developed with intention, including many key attributes to community planning that are used today. Roads were developed in grid patterns, waterways provided stored rainwater to residential homes, and drainage systems kept communities clean (Hinduism Today, 2001).

The first recorded comprehensive city plan was drafted by the Catalan civil engineer Ildefons Cerda for Barcelona in 1859. Cerda based his plan on his own theory of urbanization which outlined principles for physical development that would promote the wellbeing of individuals, which would in sum promote the wellbeing of society (tgu.urbanization.org, 2020).

Modern planning developed reactionarily to early twentieth century progressive reform movements (Hoch, 1994). The professionalization of planning began in 1909 with the first National Conference on City Planning which instigated a movement towards organized and professionalized planning (APA, 2020). The American City Planning Institute was incorporated in 1917 and, after its transition to the American Institute of Planners (AIP) in 1939, remained one of two professional planning institutes along with the American Society of Planning Officials (ASPO), which was incorporated in 1934. In 1978, the two organizations agreed to consolidate
into the American Planning Association (APA), a non-profit organization that, among other responsibilities, would house the American Institute of Certified Planners (AICP) (APA, 2020).

A Standard State Zoning Enabling Act (SZEA) was first developed in 1921 and published in May 1924. The act provided a basis for zoning and land use controls. A second piece of legislation addressing land use and zoning was published in 1928. A Standard City Planning Enabling Act (SCPEA) was the first legal model for comprehensive planning and included the organization of a commission to develop a “master plan,” along with a section addressing the components of said master plan (Knack, Meck, & Stollman, 1996). The third revision of the SZEA incorporated important verbiage that, in this draft, evolved to include the comprehensive plan. The act initially stated that zoning regulation should, “…be made in accordance to a well-considered plan,” (Knack, Meck, & Stollman, 1996, p.5), but was changed to read “comprehensive plan.”

With the development of the comprehensive plan followed the necessity for evaluation of the plan. Plan evaluations have been developed to assess the quality of a plan as a product, measuring quality in categories such as external and internal quality (Berke & Godschalk, 2009), comprehensiveness, strength, and persuasiveness (Connel & Daoust-Filiatrault, 2018), quality of communication, approach, data, and methodology, plan format, guidance for implementation, “rational model” considerations, adequacy of scope, adequacy of context, and procedural validity (Baer, 1997). Norton (2008) defined plans at “communicative policy act” and developed content analysis techniques in local master plans and zoning codes. Norton evaluated plans from Genesee County, Michigan based on concepts of plan policy focus and plan quality. Quantifiable measures were determined for the categories and it was determined that (among other findings)
plan quality could not be measured numerically because the weighted system accounted for the existence of a plan element, not the quality of representation of the element.

**Technical Communication**

Technical communication is, "any form of communication that focuses on technical or specialized topics, communicates specifically by using technology or provides instructions on how to do something." (Society for Technical Communication, 2019). A comprehensive plan articulates the actions necessary to transition the community into the future. Unlike other forms of technical communication, plans are living documents that are changeable, representational, and persistent (Hopkins & Zapata, 2007). Technical communication can be interpreted as language or artifact. For the purposes of this study, technical communication refers to the comprehensive plan as a technical communication artifact.

Although coordination in planning has been documented since the early 20th century, as planning professions evolved, a dichotomy emerged between comprehensive plans and sectoral plans - those focused on individual necessities for transportation, waste management, infrastructure, and other industries – developing a stronger need for collaboration amongst sectors. Inter-institutional cooperation is pertinent to successful plan development and implementation (Neuman, 1998). Norton and Sadler state the need to study "…communicative and interinstitutional dimensions of planning practice." (365) Inter-institutional communication is that which occurs between institutions (Merriam-Webster, 2020). According the Hopkins and Zapata, “plans are information about intentions and actions in relation to other possible action and expectations about uncontrolled variables. The usefulness of this information […] depends on the internal logic of relationships among actions in the plan.” (p. 339-340)
An institution is defined as, “a society or organization founded for a religious, educational, social, or similar purpose.” (Dictionary.com, 2020) Institutions are also recognized as, “a significant practice, relationship or organization in a society or culture.” (Meriam-Webster.com, 2020) Planning is as institution, professionalized by organizations such as APA. It is also a significant practice in society. Within the broad profession of planning, is a network of inter-connected institutions. These can be interpreted as different sectors such as economic development or conservation. Each of which is a significant practice in society and each is represented by a division within APA (planning.org, 2020). Based on the definitions of institution, divisions of the planning profession can be viewed as institutions, or organizations within each division could be interpreted as the institutions of planning. For the purposes of this study each division of planning is considered an institution. Along with extensive community participation, Imagine Austin was developed with support and input from over 300 staff members from all departments of the City of Austin government, including the Austin Transportation Department, Sustainability Office, and Public Works (Imagine Austin, 2012).

**Communication in Planning**

Communication has been recognized as imperative to community planning since early in the 20th century (Matsaganis, et. al., 2013). However, research regarding communication in planning is primarily focused on participation and media relations (Williamson & Parolin, 2012). Participation communication in planning includes methods to engage citizens in the planning process through communications such as public meetings, discussion groups, and scenario building (Hopkins & Zapata, 2007).

The APA Communications Guide includes six sections of focus: 1 - Messages; 2 - Media 101; 3 - Social Media; 4 - Allies and Partners; 5 - Contentious Issues; and 6 - National
Community Planning Month (APA, 2020). Chapter one provides guidance about creating messages using proof points such as statistical data or anecdotes, tailoring the message to the audience, and providing a transition between messages. The chapter also contains examples of messages and worksheets such as curating an “elevator speech.” Chapter two differentiates proactive versus reactive media communication. Proactive communication is instigated by the planning professional, while reactive communication is instigated by the media professional. Common communication interactions such as interviews and press releases are then discussed, followed by advice about how to navigate adversarial interactions. Chapter three introduces various platforms of social media; navigating conversations on social media; policies, guidelines, and ethics of social media usage; as well as legal implications and reputation management strategies. Chapter four addresses partnership building. It discusses the importance of relationships with community members, stakeholders, and elected officials; then provides direction for cultivating these relationships, and for interacting with elected and appointed officials. Chapter five expresses the importance of how controversial issues are managed by planning professionals. Messages and media communications are reviewed from the perception of a contentious issue, and communication with opposing viewpoints is addressed. Chapter six provides resources and engagement strategies for National Community Planning Month. Engagement strategies focus specifically on appointed and elected officials, students, and community outreach.

**Austin, TX:**

Austin, TX was named and announced the capital of the Republic of Texas in 1839. Austin’s first comprehensive plan, “A City Plan for Austin Texas,” was adopted in 1928. The plan included many of the same concerns that are addressed today including land use,
transportation, and public facilities. Austin’s first city plan encompassed many of the beliefs that are still upheld by the city’s culture, however, Austin’s planning history involves an unfortunate landmark, as the 1928 plan is known as a pivotal point of the institutionalization of racism through the means of blatant redlining (Gregor, 2010).

Although the conception of Austin’s planning efforts linger as a regrettable evocation of its time, Austin has since thrusted itself to the forefront of planning efforts still plaguing communities across the nation. The City Council of Austin recognized what is now known as affordable housing as early as 1950 (Gregor, 2010). From that point on, the city’s population grew at a rate of 35 percent per decade through the 1970’s, yet the economy did not match pace. This inspired city leaders to develop economic growth strategies that resulted in Austin’s position as an educational center and an energy entrepreneur (Imagine Austin, 2012).

Austin’s successful planning history, whether for better or worse, has allowed the city to focus on mitigating modern community issues such as racial implications introduced with its birth, environmental sustainability, and economic vitality. Austin has historically experienced higher growth patterns compared to similar metropolises yet maintains a livability factor comparable to rural areas of the state (census.gov, 2018). The city also directly addresses racial disparities and poverty issues through planning efforts, acknowledging that these issues are not the burden of individuals, but of the community. Austin has situated itself as a “smart” city, and focused the comprehensive plan Imagine Austin on the core directive of sustainability (Imagine Austin, 2012).
**Context:**

This study contributes to the existing research regarding communication in planning by investigating the communicative product of planning – the comprehensive plan – as a technical communication artifact and by analyzing the communication patterns between differing specializations of planning professions. A breadth of information is available regarding communication in plan development, such as that with the public, stakeholders, and local officials, and is crucial to the planning profession. Impacts of the plan as a technical communication piece have been situated through plan evaluation methods which have been determined by quantifiable methods, although plan evaluation cannot solely rely on quantifiable measures (Norton, 2008). Impacts of inter-institutional communication in planning will help guide practitioners in their future communicative efforts and practices and will hopefully lead to more cohesive plan development and project implementation.
Methodology:

The main purpose of this study is to provide information to planning professionals and technical communication professionals about communication patterns in the inter-institutional field of planning. To provide a comprehensive product regarding technical communication in planning, this project applied a case study methodology (Creswell & Creswell, 2018). This approach allows the research to address multiple dimensions of inter-institutional communication in planning. These dimensions include factual elements and professional practices both in communication patterns and the development of technical communication documents (i.e., a plan). Research was divided into two phases: Phase 1: Interinstitutional References in Imagine Austin, and Phase 2: Questionnaire of Imagine Austin participants.

Phase 1 was broken down into two subsections. Part a examined state planning requirements to determine which plan components would be evaluated. I located the requirements through each individual states’ code. This was an important piece of the research because it indicated which components are not only most frequently incorporated into comprehensive plans, but also which components are most frequently required by state mandated codes. Part b is an examination of the three most frequently required components revealed in part a from the comprehensive plan Imagine Austin.

Phase 1: Inter-institutional References in Imagine Austin

Part a:

To determine the sections of the plan Imagine Austin that would be examined, I reviewed the state planning requirements for all 50 states. Most state codes were available on the state’s government website, however, some were found in reports from governing offices.
Developing a research code for each state’s planning requirements provided a unique challenge of deciphering linguistic differences between state regulations. I overcame this challenge by utilizing NVivo to identify the most frequently incorporated terms. I began this process by developing a spreadsheet of planning requirements for all states that recorded the required or suggested content listed in the state code. I loaded the spreadsheet into NVivo and performed a simple word count query of the top 100 words with more than three letters which revealed which terms were most frequently included throughout all state’s planning requirements. Some search results were re-evaluated due to the relational consistency in which they occurred. This will be further explored in the analysis chapter, however, for contextual purposes, I will provide the following example: “development” resulted as a frequently used word, however, from reading and manually recording component information, I knew that development was primarily used as a descriptive requirement in relation to land use, but did not generally exist as a separate component.
Part b:

Phase 1: Part b was the next step of content analysis research and was guided by the findings in phase 1: part a. Identification of the three most frequently incorporated plan components led to the research conducted in part b of phase 1. The purpose of part b was to identify how the components identified in part a interact within the comprehensive plan Imagine Austin. Since Imagine Austin is a 348 page document, it was not feasible to review closely, so I instead chose to perform content analysis on only the three most frequently incorporated components identified in part a. Coincidentally, the three most frequently required plan components indicated in state codes across the nation are also the only plan components required
by the state of Texas: transportation, land use, and public facilities (Local Government Code Chapter 213, 1997).

Imagine Austin is comprised of five chapters, each with various subcategories. Chapters two and four contain the information utilized for analysis. Chapter Two: Experiencing Austin: Who Are We Today? divides in-depth analyses of community components into the following categories:

- Population and Households
- Housing and Neighborhoods
- Land Use
- Transportation
- Economy
- Environmental Resources
- City Facilities and Services
- Society and Health
- Arts and Culture
- Developing a Regional Perspective

Chapter 4: Shaping Austin: Building the Complete Community provides policy recommendations based on the analyses provided in chapter 2. Policy recommendations are divided into seven “building blocks” which include:

- Building Block 1: Land Use and Transportation (LUT Policies)
- Building Block 2: Housing and Neighborhoods (HN Policies)
- Building Block 3: Economy (E Policies)
- Building Block 4: Conservation and Environment (CE Policies)
- Building Block 5: City Facilities and Services (CFS Policies)
- Building Block 6: Society (S Policies)
- Building Block 7: Creativity (C Policies)
I used Adobe Acrobat Pro DC to extract the transportation, land use, and public facilities components from Imagine Austin. The three components were then uploaded and examined using NVivo qualitative software. I first coded the documents using auto coding. Auto coding is an NVivo feature that identifies themes of documents based on either individual sentence content, or paragraph content. I chose to use sentence content since the content of the chapters was not always formatted in paragraph structure.

I further examined the documents using manual coding. Manual coding involves reading the document and identifying emerging themes or labeling portions of the text based on previously established themes. I coded this portion of analyses using previously established themes or “nodes”. I chose the other nine chapter components as these nodes.

Accuracy in content analysis research is typically based on measurement validity and assessment reliability. Measurement validity is based on the appropriate categorization of concepts being examined. Assessment reliability “…speaks to the ability of the evaluation protocol to reliably capture the meaning of a given item comprising a category or measure in terms of the document coders’ consistent and accurate use of that protocol.” (Norton, 2008, p. 435) Utilizing previously established themes during manual coding enhanced the measurement validity and assessment reliability of this research.

I completed manual coding by reading each element meticulously to identify inter-institutional references in each chapter. Inter-institutional references were considered any mentioning of another plan component. This would indicate consideration of wholistic planning through incorporation of elements besides the primary component being addressed (the chapter title). It would also indicate the need for inter-institutional communication and collaboration to address the topic or project of discussion.
I repeated this process for the policy recommendations for each component. Policy recommendations include related policies identified within the plan (see Figure 2) which were also coded to determine overlap in policy objectives.

![LUT P3. Promote development in compact centers, communities, or along corridors that are connected by roads and transit, are designed to encourage walking and bicycling, and reduce healthcare, housing and transportation costs. (See also HN P4, S P3, C P9)](image)

*Figure 2: Imagine Austin Policy with Relations*

After coding the contents of each component, I used NVivo to run various queries for each component to find trends. Queries include node frequency and word frequency, among other features such as sociograms and centrality measures.

**Phase 2: Questionnaire**

Phase 2 of this study utilized a questionnaire to gain insight into the experiences of individuals who were involved with the development of Imagine Austin. The purpose of Phase 2 was to supplement the findings of Phase 1 through first-hand accounts of inter-institutional communication patterns in the development and maintenance of Imagine Austin. It was important to the evaluation of inter-institutional communication to have personal testimonies about how differing institutions include one another in plan development. For this portion of the
study, I received IRB approval. The questionnaire consisted of a mix of the following multiple choice and short answer questions:

- With which institution are you employed?
- How long have you been employed with your institution?
- How are/were you involved in the development of the comprehensive plan Imagine Austin?
- What methods of communication have you used to communicate with outside institutions during the development and implementation of Imagine Austin? (Please mark all that apply)
  - Email
  - Phone
  - In-person meetings
  - Web-based meetings
  - Messaging
- What are your experiences with inter-institutional communication in the planning process for the City of Austin?
- How does your institution incorporate other institutions in their planning process(es)?
- How do other institutions incorporate your institution in their planning process(es)?
- How could inter-institutional communication in Austin's planning process be improved?
- Does the City of Austin utilize an inter-institutional communication system?
- If yes, please describe the inter-institutional communication system utilized by the City of Austin.
- If no, how do you believe that an inter-institutional communication system would impact planning in the City of Austin?

Initially, the questionnaire was intended to be conducted interview style, however, since contact information is not provided for most individuals within the City of Austin government
systems, I chose to conduct the questionnaire via an online form using voluntary response sampling. Voluntary response sampling allows potential questionnaire participants access to the questionnaire, yet participation is voluntary and anonymous. I sent the questionnaire to the general contact information to the relevant departments for each component.

I did not receive ample feedback for this portion of the project, however, the one response that I was able to collect and analyze provided supplemental information to the technical communication portion of the project. Limitations regarding voluntary response sampling is discussed later in the paper. I will also address the value of the supplemental questionnaire in the following chapter.
Analysis and Results

The analysis section discusses findings from the procedures described in methodology. It first examines the content analysis of state planning requirements, followed by that of the comprehensive plan Imagine Austin. This analysis will help us identify relationships between plan components and inter-institutional communication patterns within the components. The chapter concludes with discussion of the questionnaire and what the combined results might indicate.

Phase 1: Imagine Austin

Part a:

One aspect of this study was to examine how inter-institutional communication is represented in the comprehensive planning process. I began this study by determining a location of study. I chose Austin, Texas as a geographical subject, with Imagine Austin, the comprehensive plan for the geographical subject as the technical communication artifact.

Part a of phase 1 examined the state planning requirements for each state to determine which components of the plan should be studied. As previously stated in the methods section, I used the qualitative method of content analysis to determine the frequency in which plan components are most often prioritized based on the state planning regulations of all 50 states. The three plan components prioritized throughout planning legislation for each state resulted in the following plan components: public facilities, land use, and transportation. These three components are also congruent with the planning regulations from the State of Texas, providing consistent context surrounding subject of study for addressing the communication patterns between the three sectors.
Part b:

Experiencing Austin:

I began analysis of the three components by conducting auto coding of each separate component as extracted from Chapter 2 Experiencing Austin: Who Are We Today? using NVivo. Auto coding results revealed major and minor themes for each component. Major themes reflect the primary word identified and minor themes reveal the contexts in which the word appears. For example, when City Facilities and Services was auto coded, conservation emerged as the fourth most prevalent theme. Within the conservation theme the following minor themes emerged: top water conservation priorities, current conservation, and conservation strategies. The top eleven major themes for each component are represented in order of inclusion in table 1.

Table 1: Major Themes from Auto Coding Primary Plan Components

<table>
<thead>
<tr>
<th>Element Ranking</th>
<th>Transportation</th>
<th>Land Use</th>
<th>City Facilities and Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transportation</td>
<td>Land</td>
<td>Water</td>
</tr>
<tr>
<td>2</td>
<td>Projects</td>
<td>Areas</td>
<td>Treatment Plants</td>
</tr>
<tr>
<td>3</td>
<td>Highway</td>
<td>Development</td>
<td>Facilities</td>
</tr>
<tr>
<td>4</td>
<td>Transit</td>
<td>Owners</td>
<td>Conservation</td>
</tr>
<tr>
<td>5</td>
<td>Patterns</td>
<td>Land Value</td>
<td>Resources</td>
</tr>
<tr>
<td>6</td>
<td>Bicycle</td>
<td>Growth</td>
<td>Recreation</td>
</tr>
<tr>
<td>7</td>
<td>Development</td>
<td>Property</td>
<td>Generation</td>
</tr>
<tr>
<td>8</td>
<td>Urban Core</td>
<td>Changes</td>
<td>Capacity</td>
</tr>
<tr>
<td>9</td>
<td>Vehicle</td>
<td>Uses</td>
<td>Use</td>
</tr>
<tr>
<td>10</td>
<td>Line</td>
<td>Exterior</td>
<td>System</td>
</tr>
<tr>
<td>11</td>
<td>Cities</td>
<td>Cities</td>
<td>Stations</td>
</tr>
</tbody>
</table>

The majority of major themes identified in transportation and land use were directly indicative of the component, while city facilities and services incorporated more major themes indicative of other components including recreation and conservation. Development and cities
were the only overlapping themes and occurred between the land use and transportation components.

Each component was also analyzed by manually coding references to each separate component as well as the frequency in which it was referenced within the other two components of analysis. For manual coding, the city facilities and services component was divided into subsections per the plan Imagine Austin, including:

- Energy
- Library services
- Parks and Preserves
- Potable water and drainage
- Public Safety
- Solid waste
- Wastewater

Manual coding revealed that although the themes revealed through auto coding were primarily indicative of the component being examined, each component included other plan elements in their analysis as well. Each component’s primary theme that emerged from manual coding still revealed their own component. The second and third most frequently incorporated themes in land use and transportation were their counterparts for analysis.
City facilities and services included environmental resources as the second most frequently incorporated theme, with transportation third, and land use falling at number seven. City facilities and services does not address land use as frequently as land use does city facilities and services, yet, the remaining components are more similarly represented in these two components compared to either components representation in contrast to the transportation component. This might symbolize the overall prioritization of components throughout the plan.

The inclusion of other components in city facilities and services correlated with the definition of the component within the plan.

“City facilities and services include the infrastructure and services that underlie day-to-day life in Austin. They create and convey many of the necessities of modern life—electricity, transportation, solid waste collection, wastewater, drainage, and drinking water—and help define and shape our city. They also provide public safety, health and other services, and recreational opportunities for Austin’s residents.” - (Imagine Austin, p. 157)

Imagine Austin does not include a definition of land use or transportation in either the community analysis chapter or the policy recommendations, although the interdependence of these components with one another and other components is mentioned. The broad nature of
community facilities and services as well as the inclusion of other components in the definition of the component could attribute to the inclusivity seen in the communication patterns for the element.

When the rankings of the manually coded themes were averaged, transportation and city facilities and services were ranked equally, followed by land use. This expresses the far lower ranking of land use in city facilities and services compared to the inverse relationship. Environmental resources ranked fourth followed by developing a regional perspective, and economy. This is synonymous with the primary policy directive for Imagine Austin, sustainability.

![Average Ranking of Plan Components](image-url)
**Policies:**

Policies were first analyzed using auto coding. Land use and transportation were addressed individually in chapter two of Imagine Austin, but were combined into one building block for the policy recommendations in chapter four. Both the land use and transportation component and the city facilities and services component were divided into subcategories:

*Table 3: Subcategories of Imagine Austin Chapter 4*

<table>
<thead>
<tr>
<th>City Facilities and Services</th>
<th>Land Use and Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater, Potable Water, and Drainage Policies</td>
<td>Land Use</td>
</tr>
<tr>
<td>Solid Waste Policies</td>
<td>Transportation</td>
</tr>
<tr>
<td>Energy Policies</td>
<td>Urban Design</td>
</tr>
<tr>
<td>Public Safety Policies</td>
<td>Historic Preservation</td>
</tr>
<tr>
<td>Public Building Policies</td>
<td></td>
</tr>
<tr>
<td>Recreation and Open Space Policies</td>
<td></td>
</tr>
</tbody>
</table>

Land use and transportation were not equally represented in their combined policy chapter. Auto coding revealed that land was mentioned significantly more frequently than transportation, which was not only behind land use, but was the fifth most frequently identified theme. The information derived from auto coding can, however, be misleading. The three themes that separated land and transportation in the land use and transportation policy component were: development, use, and community. When these themes were further examined, each contained minor themes congruent with both transportation and land use.
Auto coding is a convenient method of quickly visualizing themes of qualitative data but the nuances that emerge such as the example presented above prove that manual qualitative analysis is imperative to validate patterns and trends revealed from auto coding. Manual analysis of the policy chapters was altered slightly from that of chapter two. Each policy in Imagine Austin addresses “synergistic opportunities” by identifying related policies. I used these connections to code policies to other plan components. Both chapters were coded in this manner and resulted in similar overall connections to other building blocks. Land use and transportation policies connected to 49 policies from other components, city facilities and services connected to 48 policies from other components.
Table 5: Policy Component Manual Coding Themes

<table>
<thead>
<tr>
<th>Land Use and Transportation</th>
<th>Frequency</th>
<th>City Facilities and Services</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Facilities and Services</td>
<td>10</td>
<td>Conservation and Environment</td>
<td>22</td>
</tr>
<tr>
<td>Housing and Neighborhoods</td>
<td>10</td>
<td>Land Use and Transportation</td>
<td>9</td>
</tr>
<tr>
<td>Society</td>
<td>10</td>
<td>Society</td>
<td>7</td>
</tr>
<tr>
<td>Creativity</td>
<td>7</td>
<td>Housing and Neighborhoods</td>
<td>5</td>
</tr>
<tr>
<td>Economy</td>
<td>7</td>
<td>Economy</td>
<td>3</td>
</tr>
<tr>
<td>Conservation and Environment</td>
<td>5</td>
<td>Creativity</td>
<td>2</td>
</tr>
<tr>
<td>Total Policy Connections</td>
<td>49</td>
<td>Total Policy Connections</td>
<td>48</td>
</tr>
</tbody>
</table>

Congruent to findings in the analysis of chapter two, city facilities and services policies correlated with conservation and environment policies more than those of other components. Land use and transportation policies equally correlated to city facilities and services, housing and neighborhoods, and society components. Land use and transportation policies inter-related with other components more consistently with the gap between number of correlations from most frequent to least being a 50 percent difference. City facilities and services policies showed a more drastic difference of correlation patterns with the most frequently correlated component appearing 11 times more frequently than the least correlated component.
Conservation and environment was the least mentioned component in land use and transportation, yet the most in city facilities and services. When the total number of correlations for each component were combined between transportation and land use and city facilities and services, the significance of the interval of component inclusion in city facilities and services becomes more apparent.
Auto coding of policies returned a skewed number of references. This could be a research error since the policies were coded as individual sentences, any key words within a policy may have been recorded, resulting in multiple themes from each policy. A general pattern of component inclusion showed that land use and transportation components generally incorporate more inter-institutional references except in the manual coding of the analysis chapters. This may be a result of land use and transportation being separated in the analysis chapters and combined in the policy chapters. Although the relationship between the two individual components warrants merging them in the policy chapter, references of each would still emerge in auto coding, which may explain the drastic difference between the land use and transportation polices component and the city facilities and services polices component.

Figure 6: Total Component References in Land Use and Transportation Components (combined) and City Facilities and Services Component in Imagine Austin
Phase 2:

I did not receive the desired feedback through the supplemental questionnaire, however the respondent that I was in contact with was a member of the core development team for Imagine Austin and has been employed with their agency for between 11 and 15 years. The information obtained was valuable in revealing how trends in inter-institutional communication might lead to the patterns revealed through the technical communication analysis in phase 1. The respondent’s embeddedness in his agency and proximity to the development of Imagine Austin provide legitimacy to the value of their responses.

The respondent indicated that phone, email, and in-person meetings were the primary means of communication when contacting outside institutions for plan development. Experiences of inter-institutional communication were reported to be positive, yet the processes needed to “officially coordinate” with another jurisdiction posed as a barrier to communication and planning efforts. Inter-related agencies were reported to be more effective than stand-alone agencies, whether the coordination stemmed from combining multiple agencies or inter-agency agreements.

The perceived positivity of inter-institutional communication could be indicative of the inclusion rates of other plan components represented in phase 1: part b. Similarly, the barriers experienced in efforts to “officially coordinate” with other agencies could inhibit inter-institutional communication in planning efforts.

The City of Austin does not currently utilize an inter-institutional communication system. It was not determined how an inter-institutional communication system would impact planning in Austin. Purpose, design, and individual use were reported to be factors that would determine the impact of inter-institutional communication systems.
These analyses exposed that inter-institutional communication is present in both the technical communication artifact Imagine Austin and amongst planning professionals in the development of the comprehensive plan. The three most frequently required components of comprehensive plans incorporate other components’ policies in over 100 percent of their policy recommendations. Components also incorporate one another in analyses of needs, however, at a disproportional rate based on the component being observed. This may indicate that policies are more likely to be developed with inter-institutional needs in mind, while inter-institutional planning ideals may be less likely to be incorporated into community analyses. The implications of this phenomena will be further discussed in the following chapter.
Discussion

Communication is a primary component of the planning profession. The need to better understand communication networks between planning professionals is pertinent to the practice (Baum, 1983; Norton & Sadler, 2006; Innes, 2007). Although certain aspects of communication in planning have been evaluated, such as communication between planners and the clients and communities they serve (Al-Kodmany, 2001; Beauregard, 2013; Norton & Sadler, 2006), inter-institutional communication between planning professionals is a necessary focus of research (Norton and Sadler, 2006). This research regarding inter-institutional communication in planning was guided by the following questions:

- What are current trends in inter-institutional communication for comprehensive plan development in Austin, TX?
- How is inter-institutional communication reflected in technical communication artifacts (comprehensive plans)?

Findings of this study revealed that the three comprehensive plan components most frequently required by state planning regulation are transportation, land use, and public facilities. Content analysis of these three components of the comprehensive plan Imagine Austin showed that each of the components does incorporate other elements of planning in technical communication artifacts, however, separate institutions do not equally represent one another in technical communication artifacts. Some of these conclusions may be a result of the nature of each separate component, they may also reflect the network of inter-institutional involvement.

This research provides evidence that inter-institutional communication is vital to comprehensive plan development and the use of inter-institutional communication is evident in Imagine Austin. It was reported that inter-institutional communication practices in
comprehensive plan development were enacted to create Image Austin, however the convenience, efficiency and cohesivity of inter-institutional communication could be improved.

This evidence provides planners with two key takeaways:

1) Inter-institutional communication enhances plan development and should be utilized when creating plans.

2) And that current communication practices may be causing barriers to inter-institutional partnerships.

My recommendations for overcoming the barriers expressed in inter-institutional communication include strategies derived from and expanded upon the questionnaire response. The first recommendation is that organizations develop partnership plans based on the needs of the community prior to plan implementation. This could be achieved by compiling common projects and discussing the responsibilities of each entity involved and identifying key players before developing a plan to allow each agency to contribute based on their resources and restrictions. Inter-agency agreements were explicitly identified as a barrier to partnerships, so another recommendation is to increase planning professionals' knowledge of memorandum of agreements. A third recommendation is for municipalities to devise communication strategies between agencies rather than rely on individual relationships to coordinate efforts. This could be achieved through an inter-institutional communication system such as a shared project management software. The efficacy of inter-institutional communication systems in planning could be a topic of future research. Future research on this subject could also evaluate the impact of inter-institutional communication on plan implementation, possibly by evaluating the rate of
policy implementation and project completion of those which showed inter-institutional cooperation versus those that did not.

One limitation of this study is that communication is a natural process that provides different outcomes based on context from the individuals participating and their environments. The reflection of communication patterns based solely on technical communication artifacts could be insufficient to draw specific conclusions about the topic. The scope of the study can also be viewed as a limitation. To further investigate communication patterns in planning, it would be beneficial study multiple case studies in which technical communication artifacts are cross-referenced and evaluated based on longitudinal updates to see how these trends expand over space and time. Time limitations prevented evaluation of the entire comprehensive plan, which may have revealed deeper insights had every plan component and plan implementation been included.

In conclusion, this research provides evidence that inter-institutional communication is vital to comprehensive plan development. Inter-institutional communication is evident in the technical communication artifact Imagine Austin. It was reported that inter-institutional communication practices in comprehensive plan development were enacted to create Image Austin, however the convenience, efficiency and cohesivity of inter-institutional communication could be improved. This research broadens the discussion of inter-institutional cooperation in planning and provides a framework for future research to investigate current practices and influences of inter-institutional communication in planning and comprehensive plan development and implementation.
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Appendix

1) NVivo’s word frequency query allows artifacts to be analyzed by the frequency of words for which the user can specify desired information such as word length and type, word clouds create visualization of word frequency queries.

2) The comprehensive plan Imagine Austin is a network of analyses and suggestions with the underlying directive of sustainability. It was created through communication between city and county governments, community members, and consultants. The plan incorporates chapters directed to the public as well as professionals. A summary of the plan is included in “Imagine Austin at a Glance.”
3) NVivo’s auto coding feature recognizes themes within the selected artifact. This form of analysis presents complications with relational words and does indicate which themes might be correlated. For example, the auto coded results of the policy chapter of Imagine Austin provided “parks” and “recreation” as separate themes for city facilities and services, and “land” and “use” as separate themes for land use and transportation, although from reading the document, it can be gathered that the two words identified in each components are often used together, and, when coded manually, would often be considered one term.
<table>
<thead>
<tr>
<th>City Facilities and Services</th>
<th>Land Use and Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Themes</strong></td>
<td><strong>Mentions</strong></td>
</tr>
<tr>
<td>Parks</td>
<td>84</td>
</tr>
<tr>
<td>Programs</td>
<td>36</td>
</tr>
<tr>
<td>Recreation</td>
<td>35</td>
</tr>
<tr>
<td>Community</td>
<td>35</td>
</tr>
<tr>
<td>Centers</td>
<td>35</td>
</tr>
<tr>
<td>Neighborhood</td>
<td>29</td>
</tr>
<tr>
<td>Water</td>
<td>28</td>
</tr>
<tr>
<td>Spaces</td>
<td>25</td>
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<tr>
<td>Facilities</td>
<td>23</td>
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<tr>
<td>Conservation</td>
<td>21</td>
</tr>
<tr>
<td>Safety</td>
<td>18</td>
</tr>
<tr>
<td><strong>Themes</strong></td>
<td><strong>Mentions</strong></td>
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<tr>
<td>Land</td>
<td>66</td>
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<td>Development</td>
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<tr>
<td>Use</td>
<td>59</td>
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<td>52</td>
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<tr>
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<td>50</td>
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<td>Pattern</td>
<td>47</td>
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<tr>
<td>Places</td>
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<td>Design</td>
<td>32</td>
</tr>
<tr>
<td>Centers</td>
<td>30</td>
</tr>
</tbody>
</table>

4) Google forms was used to format the questionnaire when it was disseminated via City of Austin contacts using voluntary random sampling.
With which institution are you employed?

1 response

City of Austin, Planning and Zoning Dept

How long have you been employed with your institution?

1 response

![Pie chart showing 100% in a purple section]

- Less than 1 year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- More than 15 years

How are/were you involved in the development of the comprehensive plan Imagine Austin?

1 response

Member of the core staff team
What methods of communication have you used to communicate with outside institutions during the development and implementation of Imagine Austin? (Please mark all that apply)

1 response

- Email: 1 (100%)
- Phone: 1 (100%)
- In-person meetings: 1 (100%)
- Web-based meetings: 0 (0%)
- Messaging: 0 (0%)

What are your experiences with inter-institutional communication in the planning process for the City of Austin?

1 response

Positive, but not as productive as I would like.
We did stakeholder interviews with other institutions and agencies. Appendix B in the plan has a list of those.
We hosted a meeting with planners from the surrounding jurisdictions during the process to discuss the draft plan and map. The surrounding jurisdictions were much smaller than Austin and thrilled that we reached out and included them.

How does your institution incorporate other institutions in their planning process(es)?

1 response

We used the CAMPO 2035 map as one of the base maps for the growth allocation exercise to help develop our Imagine Austin growth concept map.
The Mayor’s Office has a person that reviews all new plans in the region to the Imagine Austin comprehensive plan.
How do other institutions incorporate your institution in their planning process(es)?
1 response

Travis County reached out to us when they created their Land Water and Transportation Plan.
Capital Metro, our transit agency, reached out to us for their Project Connect plan.

How could inter-institutional communication in Austin’s planning process be improved?
1 response

In central Texas we have both a COG (CAPCOG) and a MPO (CAMPO). In other parts of the state, these two functions are combined in one entity and in my opinion are a lot more effective. For example, the North Central Texas COG (NCTCOG).
To officially coordinate with another jurisdiction it take a lot of bureaucracy, including action by the elected bodies and the creation of an Inter-local Agreement document. Combining departments in the city and county would be productive. Especially for Public Works departments since they maintain infrastructure and have their own criteria manuals. We do have a combined Austin-Travis County Health Department, but should have more combined city and county departments.
We have a joint City - County - Independent School District committee; they have quarterly meetings, but I'm unsure if they are productive.
We have sister-city agreements with international cities, and I believe we should have them with jurisdictions in our region. For example, Austin and Round Rock should have a sister-city type relationship.
Denver and their Mile High Compact is a great example of how to communicate and coordinate with other institutions. My understanding is that it led to regional land use planning, and that led to a bond to pay for light rail. I would love to see something like this for central Texas.
Honestly it takes meetings to communicate and move something forward, there is no magical way, just plain old meetings.
Does the City of Austin utilize an inter-institutional communication system?

1 response

Inter-institutional Communication Systems

Please describe the inter-institutional communication system utilized by the City of Austin.

0 responses

No responses yet for this question.

Inter-institutional Communication Systems

How do you believe that an inter-institutional communication system would impact planning in the City of Austin?

1 response

Unsure. It would depend on its purpose and how it was designed, then people would have to use it.