# 2020-2045MTP METROPOLITAN TRANSPORTATION PLAN UPDATE

SUBMITTED BY: FELSBURG HOLT & ULLEVIG

Confrience

SUBMITTED TO: Santa Fe Metropolitan Planning Org (MPO) REQUEST FOR QUALIFICATIONS '19/06/RFQ JUNE 7, 2019



June 7, 2019

Erick Aune, MPO Officer Santa Fe Metropolitan Planning Organization (MPO) City of Santa Fe Purchasing Office 200 Lincoln Avenue, Room 122 Santa Fe, NM 87505

### RE: Santa Fe Metropolitan Planning Organization (MPO); RFQ '19/06; 2020-2045 Metropolitan Transportation Plan (MTP) Update

Dear Mr. Aune:

We thoroughly enjoyed working with you five years ago to create Santa Fe MPO's first performance-based Metropolitan Transportation Plan (MTP), and we're thrilled at the prospect of advancing the evolution of the MTP through the 2020 update. The Santa Fe MPO is poised to integrate the next level of data-driven analysis and innovation in visually appealing and interactive document creation. Felsburg Holt & Ullevig (FHU) is well positioned to partner with you to update the MTP:

- ➤ We offer a team composed of experienced mobility planners and information architects from the 2015 MTP, including Holly Buck as the Principal-in-Charge, Jenny Young as the Project Manager, Megan Ornelas as the data analyst, and Meghan Adams as the graphic designer. This consistency in staffing will benefit you because we'll be able to hit the ground running – no learning curve will be involved.
- Our team is augmented with two key additions: Matthew Downey will serve as the Lead Mobility Planner and Micro-Mobility Analyst offering best practice research on emerging topics like climate change and micro-mobility and assisting in the integration of modal elements. Rachel Ackermann specializes in emerging transportation technologies and will guide policy and preparedness discussions related to smart city planning.
- Since our work with you five years ago, we've refined our performance-based planning practice. We've developed tools to complete data-driven project prioritization to minimize the subjectivity of project evaluation and increase the transparency of the process. We've refined a scenario planning process that enables thought-provoking discussion about possible futures pertaining to transportation technologies resulting in the identification of strategic actions. Our Data Science and GIS team have expanded their capabilities in geospatial analysis and web mapping.

FHU considers delivery of high-quality work to be the single most important means to help you create a plan that will enhance mobility in Santa Fe. In this submittal, we provide you a concise overview of our team, our qualifications, and our approach to the work effort. We look forward to partnering with you to advance your MTP.

Respectfully, FELSBURG HOLT & ULLEVIG

Holly Buck. Principal-in-Charge

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# **FELSBURG HOLT & ULLEVIG**

Felsburg Holt & Ullevig (FHU) is a transportationfocused consultancy specializing in transportation planning, traffic engineering, civil engineering, and environmental services. Transportation planning at all levels-statewide to corridor-has been a core service since our founding in 1984. FHU has a current complement of 170 professionals, including multimodal transportation planners, traffic engineers, civil engineers, data scientists, and public outreach specialists. The carefully crafted team dedicated to this project is located at our headquarters in Centennial, Colorado, where all the work will be done. FHU's transportation planners worked in tandem with Santa Fe MPO on the 2040 Metropolitan Transportation Plan (MTP) in late 2014. Being the incumbent, we have an in-depth understanding of your needs and how to successfully implement the required scope of work. Additionally, FHU has delivered dozens of modal and topical plans and studies, many with proposed Project Manager Jenny Young at the helm. FHU's sustained engagement with MPOs, counties, transit agencies, and municipal agencies (both urban and rural) serves as evidence for our deep understanding of the challenges and aspirations of the transportation system and our ability to help clients effectively address their needs.

#### Leverage the power of an industry leader bolstered by key insight from FHU's incumbency to the current 2040 MTP.

"FHU AND THEIR TEAM NOT ONLY PROVIDED THE TECHNICAL EXPERTISE WE EXPECT OF Them based on past experience but also provided more tangible services that are critical to the successful completion of this (project)." — David Kosmiski, CDOT project manager

# WHO WE ARE

### ENGINEERS DATA SCIENTISTS PLANNERS

Founded in 1984, FHU offers 35 years of extensive transportation experience and is trusted by over 2,300 clients.

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FHU has completed 95 transportation plans, including the 2040 Santa Fe MPO MTP.



### HOLLY BUCK, PE, PTP PERCENTAGE OF PROJECT: 2% PRINCIPAL-IN-CHARGE

MS, Civil Engineering – Transportation, University of Colorado–Denver BS, Engineering Management, University of Portland

Professional Engineer: CO, MT; Professional Transportation Planner

Holly is a Principal at FHU and brings 24 years of experience in multimodal transportation planning; her portfolio includes a wide range of planning efforts, from statewide and municipal plans to individual corridors. Through her experience of corridor studies, transit studies, and regional transportation plans, Holly seeks systemic multimodal transportation improvements on projects throughout the Mountain West region. She has worked with municipalities to develop and evaluate various modal options to improve residents' connectivity and mobility.

ROLE

As with the 2040 MTP, Holly will ensure that the FHU project team has the appropriate resources available to execute tasks accordingly and will oversee the QA/QC process.

#### NORTH CENTRAL REGIONAL TRANSIT DISTRICT LONG Range Strategic Transit Plan | New Mexico

Holly served as the Project Manager for development of the Long Range Strategic Transit Plan for the four-county area in northern New Mexico. Collaborated with the 15-member agency and their respective communities to develop a long range plan that addressed future population and demographic changes to meet the transportation needs of these various communities. The project also included coordination with the Santa Fe MPO, eight northern New Mexico Pueblos, and the Rio Metro Regional Transit District in Albuquerque.

#### COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) Statewide transit plan | colorado

Holly served as the Project Manager for the development of coordinated transit plans for nine of CDOT's 10 rural planning regions as well as the development of the State's first-ever Statewide Transit Plan. Oversaw the organization and development of the regional plans to ensure that they met MAP-21 requirements for coordinated planning and provided investment guidance for the regions and CDOT in the near, mid, and long term. At the statewide level, developed the state's first Statewide Transit Plan. The Statewide Plan incorporated input from the 10 rural regional plans and the five urban area plans. Oversaw development of the State's vision, goals, and objectives, as well as performance measures to track CDOT progress in achieving their goals over time.

### **RAPID CITY MPO TRANSIT FEASIBILITY STUDY | SOUTH** DAKOTA

Holly served as the Principal-in-Charge where she led the transit feasibility study that determined whether additional transit may be appropriate for the area along with the type of service and/or programs that best met the regional needs. The project involved documenting existing conditions and need for transit service, evaluating peer transit systems to learn how other comparable areas met their transit needs, developing transit service and program options for how the region's needs could be met, identifying appropriate services and programs best suited to meet the greatest regional needs, and determining major next steps and possible funding sources for implementing recommendations.

### CANYONS RESORT TRANSPORTATION MASTER PLAN, PARK CITY | UTAH

Holly served as the Project Manager and Principalin-Charge where she led the development of an implementation plan and monitoring program to help Canyons prioritize its transportation program investments and achieve its trip reduction goals. She also developed the plan in close coordination with a technical working group made up of Vail Resorts and Canyons Resort Village Management Association staff. The long-range transportation plan focused on mitigating transportation impacts associated with expanding the resort lodging and commercial space and evaluated the current travel behavior and future transportation needs of three user groups: day skiers, overnight guests and employees.



### JENNY YOUNG, PE, AICP PERCENTAGE OF PROJECT: 25% PROJECT MANAGER

#### MS, Civil Engineering, University of Colorado–Denver BS, Civil Engineering, Bucknell University Professional Engineer: CO; American Institute of Certified Planners

Jenny is one of FHU's Transportation Planning practice leaders and offers 21 years of transportation planning and engineering experience. She has developed many municipal and regional transportation plans and is proficient at managing both the technical aspects of transportation planning process and the public outreach components. Jenny specializes in multimodal connectivity with a particular emphasis on bicycle and pedestrian accommodation. Her portfolio includes statewide, county, and subarea and corridor studies. She is adept at developing creative and sustainable solutions to travel needs, and working with divergent interests to prioritize improvements.

ROLE

Jenny will be the Project Manager and will oversee all work on the MTP Update. She will lead the development of implementable multimodal project recommendations and strategies to achieve the MTP vision and goals. Jenny will also facilitate the stakeholder meetings.

### SANTA FE MPO 2040 METROPOLITAN TRANSPORTATION PLAN | NEW MEXICO

Jenny was the Project Manager for the Santa Fe MPO's first performance-based Metropolitan Transportation Plan. She led the process of identifying transportation performance measures that enabled the MPO to track progress toward meeting their vision and goals, and structured a project prioritization process that allowed a transparent comparison of multimodal projects (including bike, pedestrian, transit, and roadway), allowing the MPO's Transportation Policy Board to make informed decisions about transportation investments.

#### LINCOLN MPO LONG RANGE TRANSPORTATION PLAN | NEBRASKA

Jenny served as the Project Manager for the development of the Lincoln MPO Long Range Transportation Plan. Performance measures were developed for each principal goal addressing Maintenance, Mobility and System Reliability, Livability and Travel Choice, Safety and Security, Economic Vitality, Environmental Sustainability, Funding, and Cost Effectiveness. A transportation system analysis was conducted to consider funding and implementation strategies. Jenny led a process with stakeholders and the public that resulted in a well-supported funding plan that focused on implementing technology advances, maintaining the MPO's current assets, advancing the multimodal system, and addressing the most pressing congestion needs.

### ARAPAHOE COUNTY BICYCLE AND PEDESTRIAN MASTER PLAN | COLORADO

Jenny served as the Project Manager for the development of Arapahoe County's first Bicycle and Pedestrian Master Plan. The plan, which identified a comprehensive network of bicycle and pedestrian facilities in the incorporated and unincorporated areas of the County, involved considerable stakeholder engagement with the municipalities within the County, as well as an extensive public outreach effort.

#### TRANSPORTATION PLANNING FOR NORTH FRONT RANGE MPO (NFRMPO) | COLORADO

Assisted in developing the 2025, 2030, and 2035 Regional Transportation Plans (RTPs). The RTPs entailed conducting an inventory of existing conditions, developing corridor visions for the regionally significant corridors and methodologies for prioritizing corridors, and allocating resources. Provided continued planning assistance to the NFRMPO between RTP cycles. including the development of a project prioritization process for various funding sources. These sources included CMAQ, STP-Metro, Congestion Relief and Transportation Enhancement, TIP project evaluation and scoring, development of TIP delay policies, completion of a regional impact fee report, and involvement in the development of the long-range Transportation Demand Management (TDM) Plan and Congestion Management Process (CMP). Jenny also assisted the MPO in the development of their Regional Bicycle Plan.



### **MATTHEW DOWNEY, PE** PERCENTAGE OF PROJECT: 28% MULTIMODAL PLANNER

#### MS, Civil and Environmental Engineering, Portland State University BS, Civil Engineering, Portland State University Professional Engineer: CO

Matthew joined FHU in 2015 after graduating from Portland State University with a Master's degree in Civil and Environmental Engineering. Since starting at FHU, Matthew has been involved in both planning and design projects with experience in multimodal planning, trail design, and public involvement. His experience includes analyzing existing cycling conditions and coordinating with partner agencies to develop bicycle facility recommendations. Matthew has also led tasks to assess existing bicycle facilities using Level of Traffic Stress analysis and to develop proposed network recommendations. His portfolio includes assessing the feasibility of infrastructure improvements along various transit corridors and developing high-level cost estimates.

#### ROLE

As the multimodal planner, Matthew will lead the research efforts and the integration of modal plans and will assist in the current conditions update and document development.

### REGIONAL BRT FEASIBILITY STUDY, REGIONAL TRANSPORTATION DISTRICT | COLORADO

FHU is conducting a feasibility study aimed at identifying three to five priority corridors for RTD to implement BRT service in the Denver metro area. Matthew is heavily involved with this project in multiple facets, including route development and analysis, stakeholder engagement, physical feasibility assessment, capital cost estimate, and project management assistance.

#### ARAPAHOE COUNTY BICYCLE AND PEDESTRIAN MASTER Plan, Arapahoe County | Colorado

FHU developed a bicycle and pedestrian master plan for Arapahoe County to assess the existing active transportation network and to identify opportunities for the County to improve and grow the network, including both off-street trails and on-street bicycle facilities. For this project, Matthew conducted an inventory of the existing bicycle network and used tools such as the bicycle Level of Traffic Stress (LTS) and Shared-Use Path Level of Service to evaluate existing facilities and develop recommended network additions and improvements. Matthew also assisted with public engagement, attending several public meetings and compiling, analyzing, and summarizing comments from interested residents.

#### DENVER MOVES: TRANSIT | COLORADO

FHU worked with the City and County of Denver to develop a 20-year visioning and implementation plan for the City's transit system. Matthew was heavily involved with public outreach efforts aimed at educating the community about plan accomplishments and learning their opinions about local transit service. Also assisted in the analysis of existing conditions along transit corridors, identified potential solutions for service improvements, and developed cost estimates for plan recommendations.

#### NORTH-SOUTH REGIONAL BICYCLE CORRIDORS STUDY, DENVER SOUTH TRANSPORTATION MANAGEMENT ASSOCIATION | COLORADO

Matthew served as the lead planner for Phase 2 of the North-South Regional Trail Connections Study with the Denver South Transportation Management Association (DSTMA). Using the identified priority bicycle corridors identified in a previous study phase, FHU conducted additional analysis and refined two priority north-south corridors on the east and west sides of I-25 spanning from Quincy Avenue in Denver south to RidgeGate Parkway in Lone Tree. Matthew performed a bicycle LTS analysis on the identified routes and used the results to identify facility types and improvement recommendations; he developed planning-level cost estimates for each recommendation. Additionally, Matthew assisted in coordinating with partner agencies.



### **RACHEL ACKERMANN, PE** PERCENTAGE OF PROJECT: 6% EMERGING TECHNOLOGIES

#### MS, Systems Engineering, Purdue University (in progress) BS, Civil Engineering, University of Colorado–Denver Professional Engineer: CO, WY

Rachel, a transportation engineer at FHU, has amassed a portfolio working closely with senior transportation engineers analyzing multiple municipal corridor studies and design projects concentrated in the Denver metropolitan area. She previously worked at the Colorado Public Utilities Commission in the Energy Section. As a graduate student in the Purdue University Systems Engineering program, Rachel strives to bring a holistic approach to alternatives evaluation and leverage her experience in the energy sector to evaluate emerging transportation technologies from a mobility and energy perspective. Given her interdisciplinary background, Rachel is slated to work on the pending RTD Transportation Transformation fleet electrification plan and FHU's pending Smart Cities on-call contract with the City and County of Denver.

#### ROLE

Rachel will lead the team in the emerging technologies research and policy-related best practices and will assist with scenario planning, which is anticipated to focus on potential strategies related to emerging technologies.

#### MEAD TRANSPORTATION PLAN | COLORADO

Part of the team that leveraged the ongoing work of FHU's emerging technologies group to understand policy and technology trends in Colorado and throughout the nation to identify a wide range of solutions to meet future mobility needs. Because many of these emerging technologies are new and have limited real-world application, Rachel worked with Mead to identify opportunities to leverage proven innovative technologies and implement policies and practices to help evaluate future technologies. The inclusion of emerging technologies in the Plan is to guide Mead on the path for preparing the impacts of new technologies, rather than trying to predict the future.

#### CANYONS RESORT TRANSPORTATION MASTER PLAN (TMP) | UTAH

Rachel served as a transportation engineer and evaluated several transportation strategies to reduce the traffic impacts associated with the buildout, including carshare and bikeshare programs, employee shuttles, guest and employee incentive and disincentive programs, and expansion of existing transit and shuttle services. The culmination of the evaluation and a key product of the TMP was a monitoring program and spreadsheet tool that quantifies the transportation impacts of the development over time and evaluates the efficiency and effectiveness of the implemented transportation mitigation strategies; the spreadsheet tool provides an interactive tool that will guide the evolution of the plan over time.

#### SPEER/LEETSDALE MOBILITY STUDY | COLORADO

Rachel served as the Lead Transportation Engineer evaluating transportation connectivity and operational needs for all travel modes within the Speer/Leetsdale Corridor. She also conducted the final intermodal evaluation of the recommended improvements provided by the mode specialists to ensure compatibility and to capture the operational trade-offs pertaining to each improvement; the recommended alternative comprised a refined package of cohesive, location-specific improvements. The study evaluated improvements for various transportation modes, including walking, biking, public transit, and driving. The analysis included transportation solutions such as new bicycle and pedestrian facilities, bicycle and pedestrian safety improvements, a reversible bus rapid transit lane, managed transit lanes, and travel demand management measures

#### ERIE PARKWAY CORRIDOR STUDY | COLORADO

Served as the traffic engineer and identified multimodal improvements along Erie Parkway. She participated in public outreach to educate the community and ensure community values and priorities were represented in the recommended alternative. Based on the feedback received and the existing conditions analysis, a wide range of alternatives including roundabouts, shared use paths, crossing enhancements, bicycle/pedestrian overpasses/underpasses, buffered bike lanes, and access control were considered and evaluated.



# **MEGAN ORNELAS, GISP**

PERCENTAGE OF PROJECT: 28% GIS ANALYST

BA, Geography Emphasis in GIS, University of Colorado–Denver Geographic Information Systems Professional #67981 ACEC-CO Future Leaders 20-hour Basic Supervisory Skills; Mapping with Mobile GIS Software – Trimble Certification

Megan is a GIS specialist with 20 years of experience. She provides high-level GIS analysis, data management, database design, map template creation, cartographic design, and cartographic production on a variety of design, environmental, and planning projects. Megan also brings experience and knowledge in developing web mapping applications both in the public and private sectors. Megan's project experience with web mapping applications includes development using JavaScript, Silverlight, and Flex APIs in addition to web mapping prototype/design, use case requirements, development/implementation, documentation, and best practices and standards. Megan is proficient with the ESRI suite of products, including ArcGIS 10.x, ArcGIS Server 10.x, ArcSDE, ArcGIS Online, and Spatial/3D Analyst.

ROLE

Megan will be responsible for all GIS-based mapping and data analysis, including the project prioritization process. Megan will work closely with FHU's planners in creating the ESRI Story Maps.

#### ARAPAHOE COUNTY BICYCLE AND PEDESTRIAN MASTER Plan | colorado

Serving as the GIS lead, Megan gathered data from several municipalities and created cohesive and comprehensive bike and trail network datasets as final deliverables for the County. She developed the map template for all maps, data management of all data layers, and a complete sidewalk analysis using geoprocessing tools to calculate sidewalk widths and to identify missing sidewalk segments within Arapahoe County. Megan also developed GIS methods to prioritize bike and trail projects based on pedestrian propensity, major barriers, demographic variables, and cost analysis. She implemented a web map commenting tool that allowed Arapahoe County and surrounding municipalities to review the bike and trail networks and provide feedback to further enhance these datasets. Megan also created a public commenting web map for the public to voice their issues and concerns about the bike and pedestrian master plan. Final deliverables included a final geodatabase of fully attributed feature datasets, map packages, final map figures for the report, and a published bike map.

#### BROOMFIELD COMPREHENSIVE PLAN UPDATE/ TRANSPORTATION PLAN | COLORADO

Megan provided GIS support, which included data management of all GIS layers, map creation and production for all transportation, transit, and bike/ pedestrian analysis, in addition to creation of new data. She developed GIS methods to prioritize bike and trail projects to help establish cost analyses for implementing future bike and pedestrian projects within Broomfield. Megan was also responsible for all final report map figures and creation of map packages as final deliverables for the client.

#### RAPID CITY MPO TRANSIT FEASIBILITY STUDY | South Dakota

Performed GIS analysis for the Rapid City MPO Transit Feasibility Study. Efforts included inventory of existing transit data and major recreation, shopping, and public facilities. Evaluated existing services, identified transit gaps in service, and conducted existing and future demographic analysis. Built the framework for a transit dependency index based on demographic variables, transit routes, and activity center inputs. Produced final map figures for report and analysis. Created final geodatabase deliverable.

#### ARVADA TRANSPORTATION PLAN | COLORADO

Managed all the GIS data obtained from multiple sources. Provided all the GIS mapping and analysis of existing and future road networks, transit routes, transit supportive areas, in addition to final map figures for the Arvada Transportation Plan. Provided a final GIS deliverable that included a file geodatabase with fully attributed data layers, metadata, map packages, and final PDFs of all map figures.



# **MEGHAN ADAMS**

### PERCENTAGE OF PROJECT: 11% GRAPHIC DESIGN

#### BA, Art and Design – Emphasis in Graphic Design, University of Northern Colorado

Meghan brings 16 years of experience and creativity in media and graphics to the team. With one and a half decades in the transportation engineering industry, Meghan understands the importance of creating compelling graphics and making technical information readable and relatable to clients and stakeholders. She and her team have a reputation for creating standout visuals for reports/ deliverables, business development materials, open houses/public meetings, and presentations. She also produces materials needed to support planning and design projects, including handouts, report graphics, wall displays, flyers, interview boards, sign-in sheets, comment sheets, PowerPoint presentations, and direct mailers.

**ROLE** Meghan will lead all graphic design efforts for this project, continuing her work from the Santa Fe MPO 2040 MTP ensuring all branding and marketing materials have a cohesive look.

### SANTA FE MPO METROPOLITAN TRANSPORTATION PLAN 2015-2040 | NEW MEXICO

Meghan was the lead designer responsible for producing graphics for the Plan and Executive Summary. A large component of this was developing performance measures cutsheets for each goal and developing a "Plan on a Page" style Executive Summary for the Plan.



### GREELEY EVANS TRANSIT 2016 GET 5-10 YEAR STRATEGIC PLAN | COLORADO

Meghan was involved in this plan from beginning to end. Graphics ran the spectrum from creating the project branding, existing conditions graphics, preparing public meeting materials, to final document design and layout. She worked closely with the project management team to ensure that messaging to the public was clear and on-point.

#### ARAPAHOE COUNTY BICYCLE AND PEDESTRIAN MASTER Plan | colorado

Similar to the Greeley Evans Transit Strategic Plan, Meghan developed the project branding, developed public outreach materials ranging from posters to Bike-to-Work Day information flyers, and developed graphics and maps for the plan.

### LINCOLN MPO 2040 LONG RANGE TRANSPORTATION PLAN UPDATE | NEBRASKA

Meghan was the lead designer responsible for designing the layout of the Plan. She worked closely with the project management team on the development of graphics and maps for the plan to ensure that messaging was clear, concise, and easy to follow.









Metropolitan Transportation Plan 2015-2040

#### (NEW MEXICO)

#### Key Highlights:

An important aspect of the project's success was the design of a readerfriendly document and visually appealing and concise Executive Summary.

#### Reference:

Erick Aune Transportation Planner Santa Fe MPO (505) 655-6664 ejaune@ci.santa-fe.nm.us

The Santa Fe Metropolitan Planning Organization (MPO) hired FHU to assist in the development of their 2040 Metropolitan Transportation Plan. The plan was the first in the region to be performance-based. FHU facilitated a process of identifying transportation performance measures that enable the MPO to track progress toward meeting their vision and goals, which emphasize the creation of a more balanced transportation system that provides travel choices. Building on the goals and system-level performance measures, FHU structured a project prioritization process that allowed a transparent comparison of multimodal projects (including bike, pedestrian, transit, and roadway), allowing the MPO's Transportation Policy Board to make informed decisions about transportation investments. The MTP was adopted unanimously with strong support from the MPO staff and Technical Coordinating Committee.



#### LINCOLN MPO Long Range Transportation Plan

#### (NEBRASKA)

#### Key Highlights:

The plan's funding strategy includes an increased emphasis on rehabilitation, technology, and intersection bottlenecks, while allowing construction of critical capital projects and continuation of funding for alternative modes. The implementation plan considers and incorporates flexible strategies to position Lincoln for rapid advances in technology.

#### **Reference:**

David Cary Lincoln/Lancaster County Planning (402) 441-7491 dcary@lincoln.ne.gov In 2015, the MPO contracted FHU to update the Lincoln-Lancaster County 2040 LRTP. Contracted services included a plan update process in compliance with federal regulations integrating performance-based planning. Close coordination with the Comprehensive Plan and the Transit Plans were required with a public engagement process developed around the community Vision and Goals. The Plan update started with a current and future needs assessment, followed by travel patterns and trends for roadways, bicycle and pedestrian, transit, rail, freight, safety, and intermodal connections. FHU updated the MPO's TransCAD travel demand model, which involved revisions to the main model inputs, a model validation process, and development of future 2026 and 2040 travel demand models for evaluating roadway alternatives during the transportation planning process. The model update included a review and concurrence process with the MPO and NDOR.

Performance measures were developed for each principal goal, addressing Maintenance, Mobility and System Reliability, Livability and Travel Choice, Safety and Security, Economic Vitality, Environmental Sustainability, Funding and Cost Effectiveness. A transportation system analysis considered different funding scenarios and implementation strategies. The plan resulted in a fiscally constrained plan based on revenue forecasts and a project prioritization process. The project evaluation included environmental resource considerations addressing air quality and the natural, social, and cultural environments.



THE LRTP UPDATE IS A PERFORMANCE-BASED PLAN, WHICH MEANS LINCOLN WILL USE SYSTEM-WIDE PERFORMANCE MEASURES TO TRACK THE PROGRESS TOWARD MEETING THE TRANSPORTATION GOALS. THE PERFORMANCE MEASURES WILL AID IN BETTER UNDERSTANDING THE IMPACTS OF TRANSPORTATION PROJECTS AND PROGRAMS.

### **ARAPAHOE COUNTY**

BICYCLE AND PEDESTRIAN Master Pi an "I have never worked with a consultant that made my management so easy. You should all be very proud of the great work you produce." Ray Winn, Open Spaces Planner, Project Manager

#### Key Highlights:

The plan resulted in identifying a comprehensive network of bicycle and pedestrian facilities throughout the County.



#### (COLORADO)





#### Reference:

Ran Winn Open Spaces Planner Arapahoe County Public Works and Development (720) 874-6551 rwinn@arapahoegov.com

FHU led the development of Arapahoe County's first Bicycle and Pedestrian Master Plan with the support of Toole Design Group and Architerra Group. The primary purpose of the Arapahoe County Bicycle and Pedestrian Master Plan was to identify a comprehensive system of on-street and trail facilities that safely connects neighborhoods and destinations and encourages walking and bicycling for travel and recreation. The plan uses existing and planned pathways, trails, roadway infrastructure, utility and drainage easements, open spaces and linear parks to create an interconnected network. This will provide access to neighborhoods, parks, activity centers, Town Centers, work centers, park and rides, light rail stations, bus stops, schools, places of interest, and connectivity to the trails and pathway systems of adjacent communities. The plan was developed in close coordination with the many communities within and adjacent to Arapahoe County and ultimately serves as a guide for planning, prioritizing, and constructing bicycle and pedestrian network improvements.

#### **Operational Programming Components**

- Goals, objectives, performance measures (including historic trends and targets), strategies and policy recommendations
- Comprehensive inventory and GIS database of bicycle, trail, and sidewalk facilities
- Bicycle Level of Traffic Stress (LTS) analysis
- Pedestrian demand analysis, typology development and case studies for pedestrian improvements
- > On-street and trail design guidance
- Wayfinding guidance and application to three sample corridors
- Network recommendations, identification of projects, prioritization using evaluation criteria based on goals and performance measures, planning-level project cost estimates
- > Public engagement activities
- Telephone town hall
- Bike-to-Work Day Stations with BPMP information and survey
- Public meetings at two points in the process each with public meetings on the east and west sides of the County
- Project website (www.arapahoebikeped.com) and interactive map-based commenting tools
- Online surveys
- Meetings with various Boards, Working Groups, County Commissioners, and City Councils

### REGIONAL TRANSPORTATION DISTRICT

BUS RAPID TRANSIT FEASIBILITY STUDY

#### (COLORADO)

#### Key Highlights:

Throughout the process, FHU worked with local community leaders, RTD staff, and the RTD Board to develop a regional BRT network and is currently evaluating eight corridors using a data-driven process to determine the top three to five for RTD investment and continued project development through Small Starts.

**Reference:** 

Brian Welch Regional Transportation District (303) 628-9000 brian.welch@rtd-denver.com FHU is working with RTD to chart a course for BRT investment in the Denver metropolitan area for the next 10 years and beyond. For the Regional BRT Feasibility Study process, FHU developed a four-tier evaluation methodology to inform a data-driven decision-making process. Ultimately, the Study will identify three to five corridors best suited for FTA Small Starts funding and those that may be suitable for BRT investment with local community support. The following evaluation principles were developed and used as the basis for the tiered evaluation methodology and corresponding evaluation principles:

- Provides connectivity and access
- Increases ridership
- > Enhances expandability, equity, and sustainability
- > Ensures cost-effectiveness
- Aligns with state and local agency recommendations
- Adheres to FAST Act BRT definition
- > Considers technological innovation/Smart Cities
- > Capitalizes on financial resources
- Integrates engineering/operation feasibility/safety
- Acknowledges potential environmental impacts

The team developed and evaluated nearly 30 potential BRT routes throughout the Denver metropolitan area. Each route was evaluated based on its potential to serve jobs and households, major origin and destination patterns, and the physical viability of creating a dedicated bus lane or other transit priority treatment. The team worked collaboratively with the RTD travel demand modeling team to develop 2040 transit ridership projections using their Compass TransCAD model.







#### PROJECT UNDERSTANDING -- LOOKING AHEAD **PROJECT UNDERSTANDING -- LOOKING AHEAD PROJECT UNDERSTANDING -- LOOKIN**

Santa Fe MPO's 2015-2040 Metropolitan Transportation Plan (MTP) meets federal requirements of a performancebased transportation plan, and we understand that the plan has served the MPO well over the past five years. Many plan elements can be retained for the 2020-2045 MTP Update to save time and money, including the basic structure of the plan. In response to the Request for Qualifications and based on our assessment of opportunities to advance the MTP, our proposed approach focuses on integrating four key plan elements and outcomes:

- 1. Researching and developing recommendations related to trends linked to transportation, mobility, and quality of life in Santa Fe, such as global climate change and the aging population.
- 2. Looking ahead to position Santa Fe for emerging transportation technologies (such as micro-mobility, electric vehicles, and automated vehicles) through a scenario planning process.
- 3. Integrating readily available big-data and conducting a data-driven evaluation and prioritization of projects.
- 4. Advancing the plan deliverables through creation of ESRI Story Mapping and an interactive, web-based plan document.

In addition to these four focus elements, the MTP Update will require a revision of the current conditions, effectively integrating the recommendations of recently completed modal plans (most notably the 2019 Metropolitan Bicycle Master Plan) and meeting federal requirements of the FAST Act. Because the public engagement for the MTP Update will be completed through a separate contract, coordination among our team, the Public Engagement team, and the Santa Fe MPO will be critical to meaningfully incorporating the public's input into the MTP Update.





FHU recognizes the emerging mobility trends and will apply these solutions to address Santa Fe's transportation needs.





# **PROJECT APPROACH** TASK 1. PROJECT MANAGEMENT

#### **PROJECT MANAGEMENT & QA/QC PROCESS**

FHU emphasizes effective and proactive project management. As Project Manager, Jenny Young will be the MPO's primary point-of-contact. Jenny will update the MPO Project Manager monthly on the project status, progress, upcoming tasks, budget and schedule. FHU developed its Total Quality Management Plan to provide quality assurance and quality control (QA/QC) for the range of projects that we work on – from transportation plans like the Santa Fe MTP to final design and construction plan sets. A process of thorough review is conducted on all our work, and as Principal-in-Charge, Holly Buck will be responsible for administering the QA/QC process.

#### **COORDINATION CALLS**

We found that regularly scheduled coordination calls were an effective way to coordinate and prioritize work tasks during the 2015 MTP planning process. We propose bi-weekly coordination calls between the Santa Fe MPO Project Manager and the FHU Project Manager (and other key team members as needed) throughout the planning process to enable similar coordination. Screen-sharing will be used as needed during these coordination calls.

#### STAKEHOLDER MEETINGS

In providing technical support to the Santa Fe MPO, we anticipate three in-person meetings with MPO staff and key stakeholders. The first meeting will occur early in the planning process and will be a work session to refine the strategy for updating the MTP and the associated work tasks. We envision this meeting as an opportunity to better understand the MPO's needs and establish our partnership for developing a successful plan. We believe that including the Public Engagement Team at the kickoff meeting would be beneficial.

The second stakeholder meeting is envisioned to be the scenario planning workshop, as described in Task 5. Scenario planning is most effective when there is a diverse mix of workshop participants; we propose expanding the stakeholder group to include members of the Technical Coordinating Committee, the Transportation Policy Board, and other community leaders.

The third in-person meeting is anticipated at the culmination of the planning process. FHU will present the draft MTP Update and highlight the major plan recommendations and strategic implementation plan.

#### COORDINATION WITH PUBLIC ENGAGEMENT TEAM

Although public engagement for the 2020 MTP will be completed through a separate contract, coordination between our team and the Public Engagement Team will be critical to ensuring that the engagement process results in input that can be directly used in the MTP development. Based on our approach to the technical work tasks required for the MTP Update, we've identified four needed primary community inputs:

- > Community Values - We need to understand what the community values relative to transportation and mobility, as well as guality of life aspects like public health and environmental stewardship. This input will be used to refine the MTP goals and objectives.
- **Trends** As input into the scenario planning process, we would like to ask community members what trends affecting transportation they think will be most impactful in the future (such as automated vehicles and changing demographics).
- **Strategies** After refining the MTP goals, we would like to receive community input on what strategies they feel should be employed to achieve the goals. This input will feed into the policy recommendations and the project evaluation process.
- **Challenges** By asking community members what problems they encounter when traveling in Santa Fe, as well as the specific locations of mobility challenges or barriers, we can integrate ideas to overcome these challenges into the project list (as supported by data analysis) and incorporate community input into the project evaluation process.



#### TASK 1 **DELIVERABLES:**

WE WILL WORK

WITH THE SANTA

**FE MPO AND THE** 

PUBLIC ENGAGEMENT

**TEAM TO IDENTIFY** ENGAGEMENT

TACTICS THAT WILL

THE MTP UPDATE.

**SERVE THE NEEDS OF** 

- > Monthly progress reports
- Meeting > summaries for coordination calls

# TASK 2. VISION, GOALS, AND Performance measures



#### **REFINE GOALS AND OBJECTIVES**

Goals and objectives are the foundation for performance-based planning; the current goals and objectives will be refined to ensure that the goals articulate the desired end state and the objectives are specific, measurable statements that support achievement of a goal.

### REFINE PERFORMANCE MEASURES AND TARGETS

We will refine the 2015 MTP performance measures

as needed to comply with federal performance measure requirements. We will focus on the performance measures that are most critical and that can be readily tracked annually.

#### ESTABLISH BASELINE AND HISTORIC TRENDS

Available current and historic data will be used to convey the current system performance and the trajectory of historic trends, thereby providing insight into the projects, strategies and policies that will be needed to meet the stated performance targets.

#### THE PROJECT TEAM RESPONSIBLE FOR ENSURING THAT THE VISION, GOALS, AND PERFORMANCE MEASURES ARE MET IS Shown below:



# TASK 3. CURRENT CONDITIONS UPDATE



#### DEMOGRAPHICS

Our team will summarize and map demographic characteristics of the Santa Fe metropolitan area by census tract using readily available data from the U.S. Census Bureau. Examples of demographic maps include population density, employment density, zero vehicle households, aging population, minority populations, disabled populations, people living in poverty, and limited English proficiency (LEP) populations. The GIS-based demographic maps will be used to align transportation and mobility solutions with the needs of the surrounding population and to integrate social equity in the project prioritization process.



FHU'S DATA SCIENCE TEAM WILL MINE THE COLLECTED TRAVEL PATTERN DATA TO SUPPORT OUR PLANNERS WITH COMPILING EFFICIENT, MODERN TRANSPORTATION SOLUTIONS.

#### **TRAVEL PATTERNS**

Our team will use several data sources to document current travel patterns in the Santa Fe MPO. Examples include:

- U.S. Census Bureau data on commuting mode split and travel time and distance to work.
- Longitudinal Employer-Household Dynamic (LEHD) data on the origins and destinations of people coming to Santa Fe to work and people leaving Santa Fe for work. These data provide useful insight on the everyday travel patterns occurring in and around Santa Fe, as well as the alignment of jobs with housing options in the region.

- The Center for Neighborhood Technology's Housing + Transportation Affordability Index offers insight on the cost of transportation at the neighborhood, municipal, and county levels. The cost of transportation is often overlooked in making housing choices but is typically the second highest household cost (after housing).
- Strava heat maps show where bicycling and walking activity is highest.



LEHD data show that each day, nearly 24,000 employees commute into Santa Fe – more than the number of Santa Fe residents who work in Santa Fe (approximately 21,000). Over 5,000 Santa Fe residents leave Santa Fe for work elsewhere.





\$11,718 Annual Transportation Costs

**1.67** Autos Per Household



**19,998** Average Household VMT

CNT's H+T Affordability Index shows that on average, households in Santa Fe own 1.67 vehicles, drive nearly 20,000 miles per year, and spend over \$11,000 annually on transportation costs.

#### TRANSPORTATION NETWORK AND SERVICES

Our team will compile an inventory of existing deficiencies in the roadway, rail, transit, bicycle and pedestrian systems based on analysis of available data and public input to portray the immediate needs. We will use the travel demand model and information from other recent planning studies to document future travel trends and patterns and future deficiencies in the multimodal system. The Needs Based Plan from the current MTP will be updated to reflect roadway, freight, and transit needs using the updated travel demand model results and recent and ongoing planning efforts.



# **TASK 4. RESEARCH & BEST PRACTICES**

The FHU team will conduct research on emerging topics pertaining to the MTP Update and will present research findings and best practices on policy, programmatic, and project recommendations to address each topic for discussion with Santa Fe MPO staff and stakeholders. Described below is our approach to two research topics identified in the Request for Qualifications.

#### **GLOBAL CLIMATE CHANGE**

According to the sixth Global Environment Outlook (GEO), published by UN Environment in May 2019, the global environment has continued to worsen in the 22 years since the first GEO; they conclude that immediate and substantial environmental policy action from all major sectors of the modern world, including transportation, is needed to reverse the decline. As the guiding document for surface transportation investments throughout the Santa Fe region, the MTP plays a key role in both encouraging sustainable travel behaviors that reduce negative environmental impacts and preparing the region for the near and long-term effects of climate change.

FHU IS COMMITTED TO LOOKING AT ALL POTENTIAL FACTORS THAT AFFECT SANTA FE'S TRANSPORTATION ADVANCEMENTS. The City of Santa Fe has taken significant action in recent years to commit to sustainable practices and reduce impacts to climate change, most notably adoption of the Sustainable Santa Fe 25-Year Plan in 2018. This plan identifies dozens of strategy recommendations aimed primarily at reducing greenhouse gas (GHG) emissions and moving the City toward carbon neutrality, including several specific to transportation. During the MTP Update process, we will incorporate and build on those recommendations as appropriate.

Given the regional transportation system's current reliance on personal vehicles, noted in Sustainable Santa Fe, policies and infrastructure improvements that encourage the use of alternative modes are among the most promising for enhancing sustainability. Because vehicles are a significant contributor to GHG emissions, actions that help convert personal trips to active modes and/or transit are environmentally beneficial. Types of recommendations that will be considered as a part of the MTP Update include:

- New and/or improved bicycle and pedestrian facilities
- > Transit reliability improvements
- > Transit-oriented development (TOD) incentives
- Travel Demand Management (TDM) programs, including parking management and employee incentive programs
- Prioritization of bicycle, pedestrian, and transit modes in city centers

#### **MICRO-MOBILITY**

Over the past few years, the transportation world has seen a rapid rise in the popularity of micromobility services such as shared e-scooter programs. These present an opportunity for closing first/last mile transit gaps and have proven popular across the country, but careful planning and regulation are necessary to ensure they are implemented and operated safely and equitably.

Many cities throughout the United States have developed guidelines and procedures that micromobility providers must follow to operate within their boundaries, and we will review these to identify best practices for the Santa Fe MPO to consider. Key issues surrounding micro-mobility include fleet sizes, priority locations for deployment, on-street vs. offstreet operations, geofencing, and data collection.



# TASK 5. SCENARIO Planning

Transportation technologies are changing the way people and goods are moved. These technological advances bring many opportunities and much promise for improved mobility. However, there is tremendous uncertainty about how adoption of transportation technologies will play out. We believe that scenario planning is a highly effective way for staff and stakeholders to actively participate in defining Santa Fe's future and to develop strategies that address a range of possible futures. A half-day scenario planning workshop with stakeholders will enable participants to:

- > Better imagine the influence of disruptive and emerging technologies
- > Identify common themes and strategies that will be advantageous for a variety of futures
- > Challenge assumptions about the future and uncover blind spots
- > Identify opportunities for future investment



Key driving forces/trends are considered when developing future scenarios. Community input on trends during the public outreach process will be folded into the discussion with the stakeholders about which driving forces/trends will most impact mobility in Santa Fe in the future, and the level of uncertainty associated with each trend. Presented to the right is a chart with examples of driving forces and trends influencing transportation in Santa Fe based on level of impact and uncertainty.

Small groups will work interactively to develop strategies that Santa Fe could use to respond to different hypothetical futures. An example of the scenarios is shown on page 25.

#### DRIVING FORCES/TRENDS INFLUENCING SANTA FE'S FUTURE





## TASK 6. INTEGRATION OF MODAL PLANS

The Santa Fe MPO, City of Santa Fe, New Mexico Department of Transportation, and other local agencies have completed or are in the process of developing several modal plans that are relevant to the MTP Update, including:

- > Santa Fe MPO 2015 Metropolitan Pedestrian Master Plan
- > Santa Fe MPO 2015 Metropolitan Public Transit Master Plan
- Santa Fe MPO 2019 Metropolitan Bicycle Master Plan
- Santa Fe MPO 2017 Pre-Teen and Teen Independent Transit and Mobility Plan
- > New Mexico DOT 2040 State Long-Range Multi-Modal Plan
- New Mexico DOT 2018 New Mexico Prioritized Statewide Bicycle Plan
- > Santa Fe County 2040 Transportation Plan

We will review these and other relevant plans within the region and integrate their recommendations into the MTP Update as appropriate. To ensure the MPO's transportation system aligns with the multimodal visions of these other documents, specific recommended bicycle, pedestrian, and transit facility improvements will be incorporated into the MTP's prioritized roadway projects, creating complete street projects.

#### TASK 6 Deliverable:

- Modal Plan Integration memo
- Refined Our Future Imagined chapter

# TASK 7. STRATEGIC Implementation plan

We recognize that the most important aspect of a planning document is how it guides a community forward, with no aspect more important than an implementation plan with clearly defined actions and attainable targets.

#### FUNDING OUTLOOK

We will assemble information on historical and current municipal, county, state, and federal transportation funding levels to develop forecasts of approximate projected funds available within the 25-year planning horizon. Restrictions on funding sources will be considered in developing the implementation plan and fiscally constrained plan. Recognizing the declining purchasing power of the federal and state gas tax and growing competition for federal funds, we will help the MPO make strategic policy and investment decisions. We will also help the MPO evaluate new and innovative funding sources such as transportation impact fees or a sales tax increase, and forming partnerships with other agencies, non-profit organizations, and businesses to fund mutually beneficial transportation projects.

### REFINE EVALUATION CRITERIA AND PRIORITIZATION PROCESS

The 2015 MTP prioritization process used evaluation criteria that align with the plan goals and objectives; however, it was a time-intensive exercise for MPO staff. We propose transitioning the project prioritization process into a data-driven process using GIS-based analysis tools to provide an objective and transparent evaluation of the transportation projects. Projects will be prioritized based on the immediacy of the need and the degree to which they are expected to contribute to the MTP goals and performance targets.

#### TASK 7 Deliverable:

- Refined Making Choices chapter
- Refined Moving Forward chapter

#### FISCALLY CONSTRAINED PLAN

After the projects in different project categories such as street projects (many of which will be multimodal), bikeway, pedestrian, transit, and maintenance have been prioritized, the FHU team will apply reasonably expected transportation revenue forecasts to develop a fiscally constrained plan that accounts for the year of expenditure project costs (a federal requirement that accounts for project cost inflation over time). While a portion of the available transportation funding is either committed to certain projects or restricted to particular project types (e.g., FTA funds can be used only for transit), other transportation funds are flexible. The resource allocation phase will consider how the flexible funding could be allocated to different project categories. The goal of this process will be to establish a fiscally constrained plan that will maximize progress toward meeting performance targets.

Alternative funding sources could be used to test the efficacy of additional transportation funding (beyond the fiscally constrained plan) to meet the region's transportation goals and performance targets. This information could be a highly effective means of communicating the need for and benefits of additional transportation revenue sources.

#### STRATEGIES AND POLICY RECOMMENDATIONS

A range of strategies will be required to achieve the region's performance targets. Strategies are the planned actions the MPO will take to translate stated objectives to real outcomes, which may include the approach to investing resources, education and outreach initiatives, and partnership opportunities.

The strategies are likely to include policy changes that are needed to realize the region's transportation and sustainability goals and to position Santa Fe for future transportation technologies. The MTP will identify current policies that limit the region's ability to realize its goals. It will also identify recommended policy changes, some of which are likely to be outside the MPO's purview (such as zoning or municipal electrification policies).



# TASK 8. DOCUMENT CREATION

While the MPO's desire is to retain the structure of the 2015 MTP, we will review the document to identify opportunities to simplify the message and make the document more graphical. Technical work elements described in Tasks 1 through 7 will be integrated into the draft 2020 MTP.

FHU created a reader-friendly "Plan on a Page" for the 2015 MTP executive summary, which the Santa Fe MPO has subsequently used to create a dynamic digital summary. We are excited to work with the Santa Fe MPO to evolve the digital nature of both the full plan and the executive summary.

To supplement plan documents, FHU will create ESRI Story Maps that communicate and visualize key elements of the plan. This may include a combination of data maps that communicate the needs and project maps that showcase the planned projects for near-term implementation, as well as those projects that have recently been funded and constructed in the region. FHU IS A LEADER IN DEVELOPING USER-FRIENDLY DOCUMENTS THAT COMMUNICATE COMPLEX ISSUES IN A SIMPLE, VISUALLY APPEALING, AND EASILY DIGESTIBLE MANNER.

# **PROJECT SCHEDULE** Allocating resources to complete tasks



Our team has identified project milestones necessary to meet Santa Fe's intended adoption date. These milestones will serve as management metrics – defining project priorities, monitoring progress, and ensuring task delivery. The proposed schedule above assumes an August 2019 start date, with a nine-month schedule. We believe this schedule to be adequate to complete the technical tasks, and we recognize the need to align the schedule with the MTP public engagement to ensure the public input is effectively integrated into the plan recommendations. This allows enough time for the adoption process to be completed by June 30, 2020.

> DELIVERING PROJECT MILESTONES WITH EFFICIENCY & PRECISION

# **BUDGET** Funding the project with a dedicated team



\$	BUCK Principal II \$235	YOUNG Principal I \$210	ACKERMANN ENGINEER III \$130	DOWNEY Planner II \$115	ORNELAS GIS IV \$150	ADAMS GRAPHIC DESIGN \$100	<b>TOTAL</b>
BUDGET Project Management	2	36	8	8			\$9,990
2Vision, Goals, and Performance Measures		4		8			\$1,760
3 Current and Future Conditions Update		4		8	16		\$4,160
4 Research and Best Practices		2		16			\$2,260
5 Scenario Planning	2	16	16				\$5,910
6 Integration of Modal Plans		4		20			\$3,140
Strategic Implementation Plan	2	20		24	48		\$14,630
8 Document Creation	2	8		20	40	40	\$14,450
Labor Subtotal	2	8	16	20	40	40	\$56,300
						Direct Costs	\$3,500
				Gross	\$179		

**Total** \$59,979





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