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## MEMORANDUM

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**DATE:** April 20, 2007

**TO:** Council Members

**FROM:** Janice Jardine  
Land Use & Policy Analyst

**SUBJECT:** Foothill Drive Corridor Study

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The following is a brief summary of the key elements that relate to the proposed study.

- A. Contract awarded to DMJM Harris – Larry Gibson, DMJM Harris, is consultant lead and project manager.
- B. Doug Hattery, Wasatch Front Regional Council, is managing the study and will administer the contract.
- C. This is a joint intergovernmental project. Project participants include – WFRC, UDOT, UTA, University of Utah and Salt Lake City
- D. The project is expected to take about 12 months to complete.
- E. Project scope includes:
  - **Public participation**
    - Process to include public education, significant participation and consensus development
    - Additional types of public notice/communication – a project web site (UTA hosted), project mailing list including community councils, neighborhood groups, business owners, business groups, property owners and occupants, and other interested parties within a designated distance of the corridor
  - **Land use**
    - Requires land use analysis of the Foothill corridor with special attention to the Kmart site, Foothill Village Shopping Center and Foothill Place Apartments
    - Identification of land use and transportation issues along the corridor
    - Develop small area master plan *“East Bench Commercial Corridor Small Area Master Plan”* (Foothill Drive/Kmart site) to include
      - Analysis of existing residential and commercial land uses
      - Develop hierarchy of commercial land uses from neighborhood commercial to commercial shopping
      - Include land use, urban design and implementation measures
      - Solicit public comments
      - Presentation to pertinent Boards/Commissions and Community Councils
      - Identify and analyze potential developable areas
  - **Transportation/Transit/Roadway Improvements on Foothill Drive**
    - Analyze and recommend roadway improvements
    - Develop locally preferred alternative and assess potential impacts and environmental concerns
    - Provide corridor analysis and alternatives development and evaluation
    - Perform traffic and multi-modal modeling
      - Develop detailed traffic analysis zone system, street network and transit system for the corridor
      - Employ a mode of choice model and transit assignment process determining mode and route choice
      - Identification of land use and transportation issues along the corridor

## **EXHIBIT A FOOTHILL DRIVE CORRIDOR STUDY WORK SCOPE**

The following work plan and schedule outlines the approach and deliverables or milestones to be accomplished in completing the Foothill Drive Corridor Study (study). The study consists of three project phases and five work tasks. The consolidated schedule is presented at the end of the work plan. Each task description includes the deliverables associated with that task and the approximate due date in terms of months from notice to proceed (NTP).

### **PHASE I – PROJECT INITIATION**

#### **Project Initiation Deliverables and Milestones:**

- Scope, Schedule, and Budget Refinement (month 0.5)
- Project Management and QA Plan (month 0.5)
- Public Involvement Plan (month 0.75)
- Project Website Development (month 1.25)
- Market Needs Assessment/Baseline Conditions Report (month 4)

The first month from NTP will consist of activities associated with the above deliverables. These activities will establish the pace and procedures for conducting the study. The Market Needs Assessment/Baseline Conditions Report will summarize all relevant background data available from previous reports and studies and will serve as the purpose and needs statement that will guide development and evaluation of the various transit and roadway alternatives prepared for the study and leading to the final recommendations and action/implementation plan.

### **PHASE II – FEASIBILITY ASSESSMENT AND ALTERNATIVES ANALYSIS**

#### **Task 1 - Public Participation Process**

##### **Task 1 Deliverables and Milestones:**

- Four Public Work Sessions
- Two Open Houses

The public involvement and coordination approach includes:

*Situation Analysis* – The public involvement process will begin by quickly assessing the lay of the land. Shortly after kickoff, an initial work session with project sponsors will be held to solidify the project scope and determine the degree of public involvement appropriate to that scope. With four main project sponsors, it's vital to do this work at the outset, before reaching out to the public, so that expected outcomes are clearly understood.

*Public Involvement Plan* – The next step will be to finalize a Public Involvement Plan to provide a road map for how the approved public information and outreach activities will be accomplished. The Public Involvement Plan will be submitted in the first month of the project during the initiation phase. This plan will be managed and facilitated by the consultant team and reviewed by sponsors' management teams.

The approach will seek to both educate stakeholders and the public about the project and solicit input about what the public would like to see for the Foothill Drive Corridor.

*Program Elements* – The main public involvement strategies to be used are: 1) identify and reach out to a comprehensive list of key audiences; 2) organize and manage a series of work sessions (four) with those key audiences; and 3) present key findings from the outreach and technical processes to the public at two open houses.

1. We will work closely with project sponsors to develop a comprehensive contact list. We will tap into existing networks, such as Salt Lake City's community council system and UTA's and UDOT's public involvement databases, as well as reaching out to formal and informal business and civic groups, and researching public records if needed to locate property owners. To communicate with these groups, we'll use a combination of personal contacts and visually stimulating web pages and printed materials. We'll also work with the news media to publicize the process.
2. In consultation with project sponsors, we will organize and manage a series of planning work sessions to involve residents, businesses and special interests. This may be organized according to geographic area, by land use type, by transportation mode, or by a combination of the three. While each session may focus on a particular element of the study and specific attendees will be invited, any member of the public would be welcome to attend any session. The purpose of these sessions is to present a situation in planning language, and ask workshop attendees to brainstorm solutions.
3. At logical points, likely at the mid-point and end of the process, we will organize and host open houses for the public to view and comment on the results of the planning process. Open houses are opportunities for us to educate about the efforts and to check-in to see if potential "solutions" resonate with the public.

## **Task 2 - Land Use**

### **Task 2 Deliverables and Milestones:**

- Initial Illustrative LU Concept Plan (month 5.5)
- Final Illustrative LU Concept Plan (month 10)

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Analysis of existing and projected land use, zoning and proposed development along the Foothill Drive Corridor will identify specific opportunities and constraints as input to

the definition of needs and issues along the corridor. Available market and economic trends information will be reviewed and incorporated. This analysis will enable the team to develop an illustrative land use concept plan that can be agreed upon by project stakeholders for this process as the basis for the integration of land use and transportation planning. The plan will be developed to a level of detail appropriate for the planning and sufficient to obtain project agreement from the key stakeholders along the corridor (WFRC, Salt Lake City Planning Division, local community councils, major land owners, UDOT, UTA, University of Utah) that all interests are incorporated. The preliminary plan and data developed by the Community Planning Workshop at the University will be integrated into this.

The plan will focus on the areas of greatest opportunity for land use change and that may most impact transportation accessibility and mobility within the corridor. These areas will include the K-Mart site, Foothill Village Shopping Center, Foothill Place Apartments and the University of Utah Research Park. Investigation and public input may identify other opportunities for inclusion as well.

Included will be provisions for the integration of useable alternative transportation modes – pedestrians, bicycles, local distribution modes as a means to increase and improve local accessibility to existing and future attractions and activity centers in the area. Also, opportunities for ensuring contextual sensitivity to the corridor setting will be identified for subsequent urban design and place-making efforts to enhance uses, increase attraction and facilitate access.

The development of this illustrative land use concept plan and the agreement of the stakeholders for its use in this process of an integrated land use and transportation planning process will occur during initial public work session(s) with the key stakeholders.

The development and refinement of the plan will proceed hand-in-hand with the development and refinement of complementary and supportive transportation concepts. Initially, several growth and transportation alternatives may be identified for consideration.

To optimize the integration of land use and transportation in the plan, it is essential that the planning be highly iterative amongst these elements rather than traditionally sequential - particularly if the outcomes are to be corridor-sensitive and emphasize sustainability. Subsequent iterations of the plan will occur during scheduled and facilitated work sessions with the key stakeholders and utilizing information obtained at public open houses and other public informational activities.

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### **Task 3 - Analysis and Recommendations for Roadway Improvements on Foothill Drive**

#### Task 3 Deliverables and Milestones:

- Peak Hour Link Volumes (TM) (month 6.5)
- Peak Hour Intersection Volumes (TM) (month 7.5)
- Traffic Operations Analysis (TM) (month 8.5)
- Modeling, Simulation, and Roadway Report (to include recommendations and conceptual design drawings for roadway improvements on Foothill Drive and modifications to I-80/I-215 interchange) (month 10)

The Wasatch Front Regional Council (WFRC)'s calibrated travel demand model will be used to identify 2030 roadway link volumes by recommending model refinements and incorporating the land use planning recommendations from Task 2. All model runs will be conducted by WFRC and the consultant team will develop model inputs and perform post processing analysis needed for the study. Model refinement recommendations will be provided to WFRC and key project stakeholders for approval.

*Develop Peak Hour Intersection Volumes* – We will use the model peak hour link volume output to develop the projected a.m. and p.m. peak hour turning movements at key intersections that will be required to evaluate 2030 traffic conditions in the corridor for each analysis concept. An iterative turn balancing method incorporating existing turning movement counts and projected future inbound and outbound link volumes will be used to identify future turning movement volumes at study intersections. The existing and forecast intersection turning movement volumes will be summarized in a technical memorandum.

*Traffic Operational Analysis* – Using the existing traffic data and the future traffic volumes, we will evaluate peak hour traffic conditions corridor. The traffic operations analysis will include the level of service (LOS), delay, and queuing with and without proposed improvements, particularly between 2300 East and I-215/I-80. The traffic analysis will be used to determine the number of lanes required to maintain acceptable operating conditions in terms of LOS and queuing. Available right-of-way, along with geometric conditions and standards will be considered in the concepts that are developed.

*Traffic Simulation* – A VISSIM simulation model will be developed for one no-action alternative and up to three integrated concepts. Models will be developed for the p.m. peak future year (2030) traffic conditions. The limits of the model will focus on key locations in the corridor to be defined by the study team. All signalized intersections within these limits will be modeled as well other major driveway entrances and cross streets. The VISSIM model developed will be able to model impacts of the preferred transit technology operations on Foothill Drive traffic as well as assess the efficiency of potential transit priority traffic signal timing schemes and other traffic control features.

The VISSIM model will provide flexibility to assess station/stop location, pedestrian activity and transit dwell time impacts. A summary of model output will be produced showing LOS, queuing, delay and corridor speeds and travel times for both vehicles and transit travel. An interactive 3D simulation will also be produced for use in showing the public and decision makers the operation of studied concepts.

#### **Task 4 - Alternatives Analysis and Recommendations for Transit Improvements**

##### Task 4 Deliverables and Milestones:

- Travel Market & Corridor Analysis (month 6)
- Evaluation Criteria (month 6.5)
- Key Environmental Factors (month 6.5)
- Transit Technology Alternatives (month 7.5)
- Selection of LPA (month 9)
- Evaluation of Alternatives Report (month 10)
- Draft LPA Report (month 10)
- Final LPA Report (month 11)
- Environmental Summary (month 11)

Building on the integrated land use and roadway improvements identified in Tasks 2 and 3, Task 4 will create and evaluate transit alternatives in the Foothill Drive corridor for consideration by the Steering Committee and the community. While specific service objectives will be identified and refined with input from the public involvement process in Task 1, it can be expected that transit alternatives will need to:

- Provide higher quality service compared to existing transit options. Potential improvements to enhance service quality include:
  - Shorter travel time / higher operating speeds
  - Increased transit capacity / larger vehicles
  - Improved service frequency
- Effectively serve both local and regional trips
- Support community desires to accommodate travel growth without increasing traffic congestion
- Be compatible with adjacent neighborhoods

The process utilized to evaluate transit options will be mode and technology neutral, relying on an analysis of the market demand in the corridor and the characteristics of the corridor itself to guide the selection of appropriate options. It can be expected, however, that recent successful examples of high quality Enhanced Bus and Bus Rapid Transit will be potential models for this corridor.

*Evaluation Process* – In consultation with the project committees and community stakeholders, we will first establish specific service and project objectives that will guide the evaluation. The objectives should address the desired effectiveness and efficiency

of the service, the cost-effectiveness of the proposed corridor investment, land use and the important elements of community acceptance. An evaluation matrix will then be created and will include appropriate measures of performance for the project objectives. Utilizing input from project management and stakeholders, the evaluation process will also establish weights or priorities for the individual performance measures. The final evaluation process will be documented for review by the Steering Committee and others.

*Travel Market and Corridor Analysis* – Before specific alternatives are developed, we will thoroughly assess the overall travel characteristics and the specific transit potential in the corridor (to determine the need for improved transit) and the physical characteristics of the corridor (to determine the opportunities and constraints for potential transit options).

Relying on existing travel and transit usage information from UTA, the city, the University and others and on previous travel model results from WFRC, the transit market will be identified and described in terms of current and future demand, key origins and destinations, typical rider profile and service operating characteristics. Of particular value at this stage will be an assessment of the travel characteristics deemed to attract new transit riders. For example, if transit travel times are not competitive, higher speeds may be needed. Or, if many passengers must transfer, a new, more direct route may be desired.

The corridor analysis will apply the travel market information to the Foothill Corridor and assess the characteristics that will influence transit alternatives. The corridor will include connecting roadways, local access routes and pedestrian and bike facilities. An important element for transit is the current and future performance of the signalized intersections and potential improvement opportunities. Also, at this point, key environmental factors will be identified and potential mitigations will be developed at a general level.

*Technology Analysis* – For this task, we will identify and define potential transit technology applications for the Foothill Corridor. The options will be defined by a description of individual components including vehicles, running way, stations, fare collection, service plan, branding and ITS (Intelligent Transportation Systems) provisions (e.g. real time schedule information).

*Identification and Evaluation of Alternatives* – Potential transit alternatives may range from modest bus enhancements to rail options, with a likely focus on BRT alternatives. The alternatives will consider the market and corridor analysis and will be defined to incorporate the service characteristics needed to attract riders. The alternatives will be full-featured so as to include not only the primary service but also connecting and feeder service, parking facilities and pedestrian/bicycle provisions – the integrated elements

needed to address project objectives.

It is expected that the different service components – routes, technology, facilities – will first be developed into a matrix of potential combinations. These will then be screened through a simplified evaluation process to produce a small set of viable options, for comparison with current transit service as a baseline. The final alternatives will be reviewed and finalized through discussions with the project committees and through community outreach.

The evaluation itself will follow the methodology previously developed. The results will be presented in one or more summary matrices highlighting the technical characteristics as well as the comparative, weighted evaluation.

*Selection of Locally Preferred Alternative* – The results of the evaluation will be summarized in a Draft Report for consideration by the Steering Committee as the initial step in defining the Locally Preferred Alternative (LPA).

The Draft Report and recommendations will also be subject to review by other project partners, stakeholders and the community. A Final LPA Report will describe the final recommendations in detail. A refined environmental assessment will also be developed at this stage.

*Traffic and Multi-modal Modeling* – A major portion of the evaluation of alternatives will rely on the use of travel demand model information and operational simulation models. Both will help us understand the effectiveness of the potential transportation improvements. The DMJM Harris team has specialized expertise with these models and will work closely with WFRM, UDOT and others to refine and operate the models.

For the recommended transit and roadway system, an operational simulation model will be developed. Utilizing VISSIM, this model will incorporate the recommended roadway configuration, traffic signal plans and the preferred transit alternative. The roadway operating performance will be simulated and refinements to the plan will be made as needed. The simulation will be able to test features such as transit signal priority and exclusive transit lanes, gauging their impact on overall traffic flow.

### **PHASE III – ACTION/IMPLEMENTATION PLAN**

#### **Task 5 - Action/Implementation Plan**

##### Task 4 Deliverables and Milestones:

Project Phasing and Action Plan (month 11)

Draft Report of Study Finding (month 11)

Final Report of Study Findings (month 12)



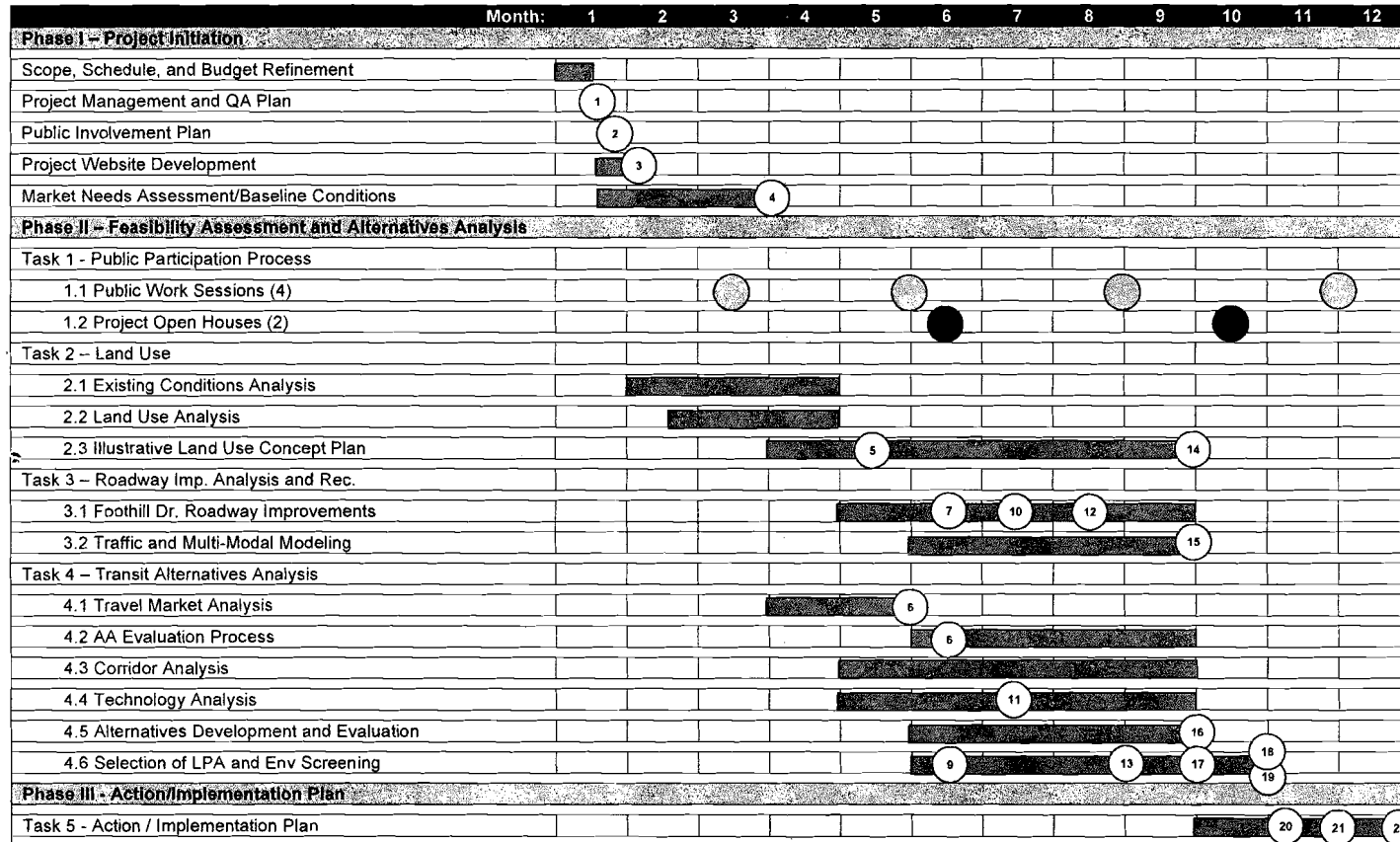
## Planning Tools and Strategies for Local Government Use (month 12)

Implementing the locally preferred alternative selected in Task 4 requires many steps. At the highest level, the region will need to consider the risks and requirements of proceeding with project development through the FTA New Starts/Small Starts program versus implementing the project locally without federal participation. In our experience this has been a difficult decision for project owners to resolve. Pursuit of Federal Transit Administration funding comes with associated risks to schedule and project control. Our project manager, Greg Walker, is currently in the process of helping clients in Jacksonville, Florida and Washington DC/Arlington County, VA work through this same problem. Generally, the project owner perspective has been that the added schedule and project definition scrutiny that comes with federal funding participation is not worth the level of funding that is realistically available.

Developing a conceptual funding plan and resolving the question of desired federal participation will be a major component of the Action/Implementation Plan. At this early stage in the project's development phase it is not critical to dedicate funds from specific sources, but there will be a realistic examination of potential funding sources, capacity of those sources to be available for this project (i.e. are the available funds already over subscribed in other projects?), and a reasonable commitment to make the necessary public funds available. With respect to any potential private sector participation in funding the project, there will be a preliminary review of the private partner project requirements that will be necessary to gain access to those funds.

After developing the preliminary funding plan, we will then begin to lay out a project phasing and implementation schedule. Included in the schedule will be a discussion of major decision points and data/study requirements to support those decisions, as well as more detailed requirements for inclusion of the project in regional transportation plans and programs. Recommendations will be developed to assist local governments and stakeholders in developing more detailed plans and assess different strategies for further corridor development.

## EXHIBIT B FOOTHILL DRIVE CORRIDOR STUDY SCHEDULE



MILESTONES			
1. Project Management and QA Plan	7. Peak Hour Link Volumes (TM)	13. Selection of LPA	19. Environmental Summary
2. Public Involvement Plan	8. Evaluation Criteria	14. Final Illustrative LU Concept Plan	20. Project Phasing and Action Plan
3. Contact List	9. Key Environmental Factors	15. Modeling, Simulation, and Roadway Report	21. Draft Report of Study Finding
4. Baseline Conditions Report	10. Peak Hour Intersection Volumes (TM)	16. Evaluation of Alternatives Report	22. Final Report of Study Findings
5. Initial Illustrative LU Concept Plan	11. Transit Technology Alternatives	17. Draft LPA Report	
6. Travel Market & Corridor Analysis	12. Traffic Operations Analysis (TM)	18. Final LPA Report	