High Desert Corridor
Joint Powers Authority

September 22, 2015

Meeting Materials

Item 8

Authorize the Chairman of the HDCJPA to enter into a Professional Services Contract with Steer Davies Gleave, in substantially the same format and content of the Scope of Work submitted to the Board, for an Investment Grade Passenger Rail Revenue Study, with such changes or additions that the Chairman determines are in the best interest of the HDCJPA, when funding is obtained for an amount not to exceed $900,000

High Desert Corridor Joint Powers Authority

E-220 HIGH DESERT CORRIDOR

September 16, 2015

Memo To: HDCJPA Board of Directors
From: Laurie Hunter, Staff Coordinator

RE: HDCJPA Passenger Rail Revenue Study

If the HDC proceeds as a Public Private Partnership (P3), the potential for backing private investment is strongest from tolling the mid-section of the highway component, and a portion of the ticket revenue, or other revenue sharing methods, for HSR trains traveling over the HDC right-of-way (between the Victorville XpressWest Station and the Palmdale Transportation Center for CAHSRA in the future, and a transfer to Metrolink until then).

The HDC EIS provided a forum for engineering consultants from XW and CAHSR to determine specs for interoperability for station platforms, rolling stock and electric equipment, design for turning radii to safely accommodate speeds. Passengers from Las Vegas and Victorville will be able to depart in Palmdale, or go on without transfer on a one-seat-ride from Nevada to Burbank, San Francisco, and other destinations on the CAHSR System and vice versa.

In order to prepare information for the funding needed for the highway and rail components, investment-grade revenue studies are needed to begin to plan and develop P3 sources of funding—that is, Public, as well as Private in Partnership. Metro is conducting the tolling study, and has asked the JPA to administer the rail revenue study.

The JPA is on record supporting a Passenger Rail Revenue Study as the sponsor, with Metro and with SANBAG support, for submitting a TIGER Grant Application in April 2014 that was not awarded. At this stage, with the Final EIS issued in winter of 2016 and Record of Decision following after four months, we need to know whether the rail component provides enough revenue to move forward.

TS, the JPA's rail consultants, feel that it is imperative for the JPA and public partners to have a credible Passenger Rail Revenue Study at the earliest date, in order to put together a Business Plan for the HDC. TS estimates the cost to be less than $900,000, and has prepared attachments which follow this memo:

1) An explanation of why the study is needed and the need for an expedient non-competitive process, and;
2) A proposed Scope of Work for the JPA to enter into an agreement with Steer Davies Gleave to perform the Study.

Investment Grade Ridership and Revenue Studies

The ongoing development of the HDC will likely require financial support both from the public and the private sectors. Insofar as the project stakeholders wish to approach the public sector for loans under programs such as RRIF or TIFIA, and at the same time approach the private sector investors and lenders for equity investment and loans, a robust set of traffic and revenue forecasts is essential.

In the public sector, investment grade ridership and revenue studies have been required by the Federal Railroad Administration for consideration of a RRIF loan for All Aboard Florida, a privately developed passenger service from Miami to Orlando, as well as XpressWest for their initially proposed project from Las Vegas to Victorville.

For the private sector – and especially for those investing in or lending to non-recourse projects – it is absolutely necessary that robust estimates are prepared of likely ridership and revenue levels and of the envelope of risks around those forecasts which allows investors to align their expectation of the project and their risk appetite.

In both cases – the preparation of an Investment Grade Forecasts by a highly reputable team whose work can be relied on in the financial centres in New York and elsewhere is effectively a sine qua non, without which the project cannot proceed.

An investment grade ridership study is one of the most thorough forecasting processes. Some of the key characteristics of the investment grade process are:

- Primary source research and local original data collection, including stated-preference and origin and destination surveys to confirm travel behavior, preferences, and willingness to pay.
- Construction of a forecasting model using local data gathered from regional planning agencies, stakeholder organizations, and recognized commercial sources.
- Use of best practices in discrete choice analysis and network travel demand modeling.
- Critical evaluation of economic growth assumptions.
- Clear identification and explanation of key risks and quantification of their impacts.
- Thorough documentation, including detailed data collection, evaluation, and forecasting procedures.
- Benchmarking and validation against previous reports.

Selection of Consultant -- Steer Davies Gleave

The number of companies with the experience of the developing rail traffic forecasts of this nature – which can/ have been used to support investment studies of this sort – are very restricted – with only Cambridge Systematics and Steer Davies Gleave presently active in this market in Southern California. Both companies are extensively involved in passenger rail analysis across the region – with CS providing

ongoing support to CHSRA and Steer Davies Gleave providing some input to the wider development of the California State Rail Plan.

Steer Davies Gleave is one of the world's leading transportation consultants, and have been providing advice in the global rail sector since 1979. http://www.steerdaviesgleave.com/home They have conducted studies for such clients as the UK Department of Transport, France's SNCF railroad, Spain's RENFE passenger rail operator, Amtrak, the US Federal Railroad Administration and many state Department of Transportations and several private sector entities in the US. They have also performed investment grade ridership and revenue forecasting studies in recent years for several high-speed and intercity passenger rail corridors in the country.

Steer Davies Gleave provided the investment grade ridership and revenue study for XpressWest on the Victorville to Las Vegas Corridor, and thus is in a unique position to carry out an extension of that study for service from Las Vegas to Palmdale and Las Vegas to Burbank/Los Angeles. Further, Steer Davies Gleave have a unique understanding of the special market which is represented by Las Vegas. Their earlier analysis – as presented in the XpressWest RRIFF application – showed how the patterns and distribution of demand as well as the behavior/ needs of that demand for Las Vegas visitors was to a great extent unique. To the extent that the demand for the Victorville – Palmdale – Burbank service derives from the Las Vegas service, this understanding will be essential for this new work.

Because they have already created a model (accepted by FRA's consultant Cambridge Systematics), gathered significant information regarding the Las Vegas travel market, and have gained a thorough understanding of travel demand in the corridor, SDG can complete an analysis of the other segments for less cost than any other consultant that would have to start from scratch, and in a more timely fashion (approximately six months.)

The only other consultant that is both qualified to undertake and investment grade study and has experience in this market is Cambridge Systematics, as noted above. However, because Cambridge would want to continue serving as an advisor to FRA with respect to any modified or separate application for financing for the Corridor and because they are also advising the California High-Speed Rail Authority on their projects, they have informed representatives of the HDCJPA that they would decline to make a proposal in response to an RFP.

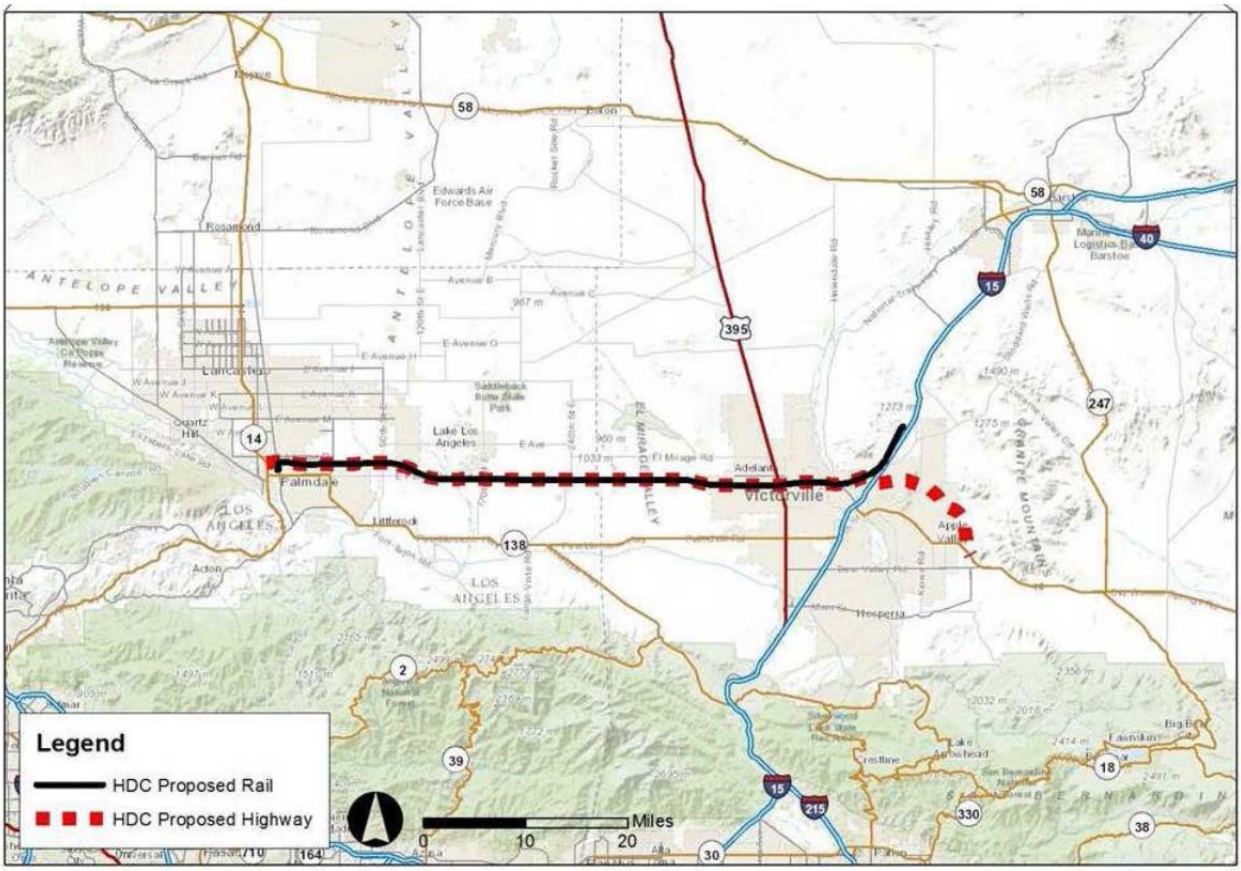
[Insert Date]

Investment Grade Ridership and Revenue Study

Scope of Work

The High Desert Corridor Joint Powers Authority (HDC JPA) (as described below) is wishes to obtain an Investment Grade Ridership and Revenue Study for the Los Angeles to Las Vegas High Speed Rail Corridor (HSR Corridor). The HSR Corridor is being developed as part of the planned High Desert Corridor (HDC), a new multi-modal transportation facility in the High Desert region of Los Angeles and San Bernardino counties. The proposed 63-mile-long west-east facility is intended to provide route continuity and relieve traffic congestion between State Route (SR) 14 in Los Angeles County and SR-18 and Interstate 15 (I-15) in San Bernardino County.

A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the HDC, has been prepared by the California Department of Transportation (Caltrans) in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), the San Bernardino Associated Governments (SANBAG) and other federal, state and local agencies. The Draft EIR/EIS was released in September 2014 and is available at http://www.dot.ca.gov/dist07/HDC/HDC_Draft_EIR-EIS/docs/00_Cover,%20Title%20and%20Summary.pdf The alternatives analyzed in the Draft EIR/EIS include a High Speed Rail line to connect the proposed XpressWest station in Victorville to the Palmdale Transportation Center where Metrolink has an existing station, and to which the California High Speed Rail System is planning to connect. Final EIR/ EIS is scheduled for completion in Q2 2016.



Source: Draft EIR/EIS, Figure S-1, Proposed High Desert Corridor

The proposed HSR Project is being evaluated for the potential linkages with the HDC by the California High Speed Rail project and XpressWest in Palmdale and Victorville, respectively, and also with Metrolink in Palmdale. This would create the potential to connect the San Francisco, Central Valley, Los Angeles, Las Vegas, and San Diego regions through an HSR system.

The HSR Corridor will be comprised of three segments: 1) Las Vegas, Nevada to Victorville, California over approximately 188 miles being developed by XpressWest; 2) an approximate 60-mile extension of the XpressWest route connecting Victorville, California to Palmdale, California over the High Desert Multi-Purpose Corridor being developed by the HDC JPA; and 3) Palmdale to Los Angeles, along the high speed rail line being developed by the California High-Speed Rail Authority (CHSRA) as part of the California High-Speed Rail System.


Las Vegas
Bakersfield
Palmdale
Victorville
Los Angeles
Riverside
Anaheim
Irvine
San Diego
Legend
Core Express (125-250+mph)
Planning
N

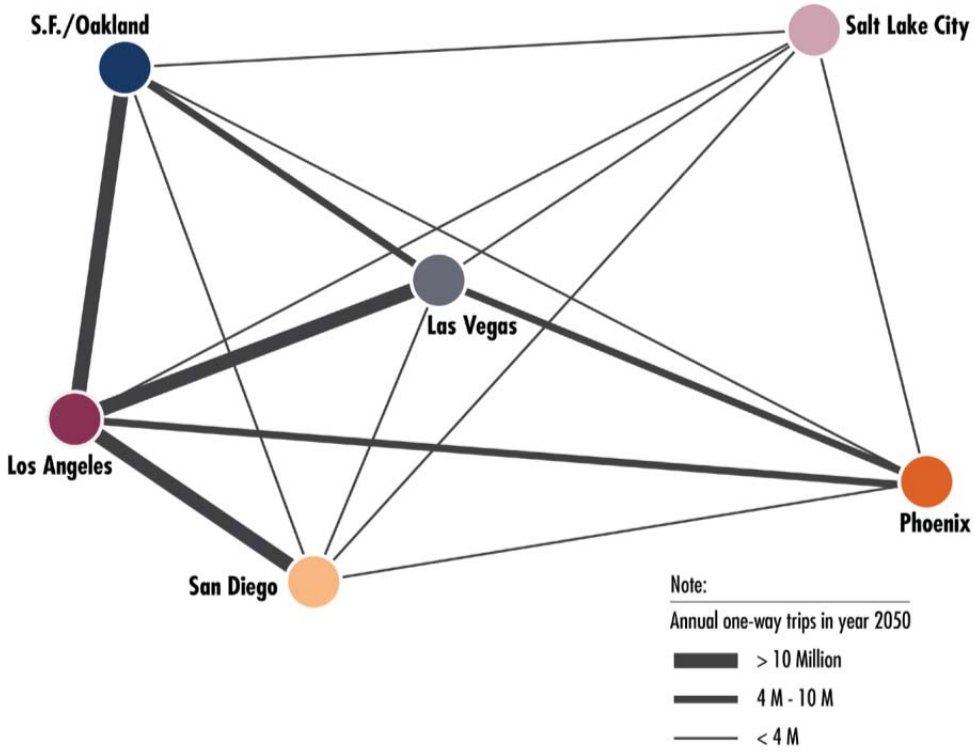
Southwest Rail Network's Los Angeles to Las Vegas Service

The importance of high speed rail service between Los Angeles and Las Vegas has been highlighted by the Federal Railroad Administration (FRA) in its Southwest Multi-State Rail Planning Study published in September 2014 https://www.fra.dot.gov/Page/P0723. The objective of the study was to identify a potential multi-state network of "candidate corridors" for further evaluation and planning. The study identifies the top performing corridors in the network that show the strongest demand as stand-alone corridors and that also enable significant increases in ridership on the other corridors in the network.

The study recognizes significant all-mode passenger volume and trips between Las Vegas and Greater Los Angeles and designates it as a candidate for "Core Express" service in the Southwest Mega Region. ("Core Express" is defined by the Federal Railroad Administration as service over 125 mph, serving major metropolitan areas, with frequent service utilizing dedicated tracks, except in terminal areas, with electric-powered vehicles.) It also recognizes the immense economic activity and value in connecting Southern California and Southern Nevada both now and in the future. The three Core Express corridors that form the backbone of the Southwest network are:

i. San Diego–S.F./Oakland
ii. Las Vegas-Greater Los Angeles
iii. Greater Los Angeles–Phoenix

The figure below from the Southwest Multi-State Rail Planning Study shows the projection for total trips (all modes) between selected MSAs as of 2050.



Source: Southwest Multi-State Rail Planning Study, Figure 4

The Las Vegas – Los Angeles segment is the focus of this study.

Parties Involved in Delivering High Speed Rail Service between Los Angeles and Las Vegas

The High Desert Corridor Joint Powers Authority (JPA) was formed in 2006 by the County of San Bernardino, County of Los Angeles, and the Cities of Adelanto, Victorville, Apple Valley, Lancaster, and Palmdale to develop a new multi-purpose transportation corridor from SR14 in Los Angeles County to SR-18 in San Bernardino County. To date, the development of the project has been funded through a combination of federal and local public funds. Preliminary engineering and environmental studies are underway. The current status of the project can be found here: http://www.metro.net/projects/high-desert-corridor/ The High Desert Corridor (E220) is officially designated in Section 1305 of SAFETEA-LU as a High Priority Corridor on the National Highway System from Los Angeles to Las Vegas via Palmdale and Victorville.

The Los Angeles County Metropolitan Transportation Authority (Metro) and ***The San Bernardino Associated Governments*** each serve as the transportation planning agency for their respective counties. The High Desert Corridor was included in Metro's 2009 Long Range Transportation Plan. http://media.metro.net/projects_studies/images/final-2009-LRTP.pdf. Metro has funded and has actively participated in the EIR/EIS process for the High Desert Corridor. SANBAG's Draft 2015 Countywide Transportation Plan also includes the High Desert Corridor.

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The California High-Speed Rail Authority (http://www.hsr.ca.gov/) is responsible for planning, designing, building and operating a high-speed rail system in accordance with the voter approved Proposition 1A. The California high-speed rail system will connect the mega-regions of the state, running from San Francisco to the Los Angeles basin in under three hours at speeds capable of over 200 miles per hour. The system will eventually extend to Sacramento and San Diego, totaling 800 miles with up to 24 stations. In addition, the Authority is working with regional partners to implement a state-wide rail modernization plan that will invest billions of dollars in local and regional rail lines to meet the state's 21st century transportation needs. The California High Speed Rail Authority has also initiated the environmental process for its line segment between Palmdale and Los Angeles (http://www.hsr.ca.gov/Programs/Statewide_Rail_Modernization/Project_Sections/palmdale_burbank.html). California High Speed Rail's final environmental review of its Palmdale – Burbank segment is currently scheduled for completion in early 2017. CHSRA has undertaken certain ridership studies on for California High Speed Rail System [and has agreed to make those studies available to the HDC JPA's ridership consultant.]

XpressWest is a private interstate passenger high speed railroad federally authorized to construct and operate its high speed passenger rail system connecting Las Vegas, Nevada and Victorville, California. While a significant amount of development work has been completed for this project, including the federal NEPA process and Investment Grade ridership studies, additional high speed rail work has been advanced by public agencies in California that has positively impacted XpressWest and its projected ridership. Extensive ridership work has already been completed and peer reviewed in support of XpressWest's Federal Environmental Impact Statement pursuant to the National Environmental Policy Act of 1969 as well as the ridership work completed in support of XpressWest's application to the Federal Railroad Administration's Railroad Rehabilitation & Improvement Financing office. These studies and other supporting documentation will be provided to the selected ridership consultant.

Metrolink is governed by the Southern California Regional Rail Authority (SCRRA), a joint powers authority that was formed in 1991 and comprises five county agencies that were tasked with reducing highway congestion and improving mobility throughout Southern California: Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority, Riverside County Transportation Commission, San Bernardino Associated Governments and Ventura County Transportation Commission. SCRRA created Metrolink in October 1992 to fill a void in Southern California's transportation infrastructure. Metrolink has served as the link between six Southern California counties by providing commuters seamless transportation connectivity options. Metrolink has grown tremendously during its 20 years in service, expanding from three service lines, 11 stations and 2,300 daily boardings to seven service lines, 55 stations and 44,000 daily boardings, all over a 512 route-mile network.

Investment Grade Ridership and Revenue Study

The consultant will be required to analyze the HSR Corridor in three phases of implementation.

1. The first phase will include "one-seat" high speed rail service between Palmdale and Las Vegas with an intermediate station in Victorville, and including a transfer to the existing Metrolink service at Palmdale.

2. The second phase of the project's implementation will include "one-seat" high speed rail service on a dedicated line from the Burbank Airport High Speed Rail Station to Las Vegas with intermediate station stops in Palmdale and Victorville.
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3. The third phase of the project's implementation will include "one-seat" high speed rail "blended service" from Los Angeles Union Station and Anaheim to Las Vegas with intermediate station stops in Burbank, Palmdale, and Victorville. At Los Angeles Union Station, passengers will be able to connect to or from the Metrolink commuter rail system and Metro's subway, light rail and bus systems.

As indicated above, the ridership study should consider the conventional rail feeder service at each phase of the project's implementation as well as the auto access to the station points.

For more detail concerning the above described segments, please see the Federal Railroad Administration's website, XpressWest's website, Metrolink's website, and California High Speed Rail's website at:

- https://www.fra.dot.gov/Page/P0723
- http://www.xpresswest.com/network.html
- http://www.metrolinktrains.com/stations/
- http://www.hsr.ca.gov/docs/newsroom/maps/Connecting_California_2015.pdf

Trainsets operating over all segments will comply with applicable State and Federal safety requirements and be interoperable along the entire Core Southwest Rail Route (with the exception of the existing Metrolink line from Palmdale to Los Angeles.

We believe the ridership study should also anticipate a future connection in Palmdale with the California High Speed Rail service to the Central Valley, San Jose and San Francisco, at a future date. While California High Speed Rail's timing on implementing its Palmdale-Bakersfield segment (and the northern route to San Francisco) is presently unclear, your proposal should include an add-alternate scope of work contemplating potential ridership increases experienced as a result of this future connection.

The objective of this work will be to update the previously completed studies and complete an investment grade ridership study to be relied upon by project investors, the United States Department of Transportation, the Federal Railroad Administration, the HDC JPA and its member agencies, XpressWest, the State of Nevada High Speed Rail Authority, California High Speed Rail Authority, Metrolink and other stakeholders.

The study should be completed within 6 months of Notice to Proceed, with intermediate submissions upon completion of the draft reports for each segment.

We have also attached an example of detailed activities of the Scope of Work (*see* **Attachment A**) that should be considered in developing the final approach to delivering an Investment Grade Ridership Study. The list of detailed activities is intended to catalyze the consultant's thoughts concerning this study, and should not be interpreted as the only activities necessary for this project.

ATTACHMENT A

DETAILED ACTIVITIES FOR SCOPE OF WORK

EXAMPLE SCOPE OF WORK

Collection and Analysis of Public Data (including, but not limited to)**:**

1. **Nevada and California Department of Transportation -** traffic counts for relevant roadways, traffic profiles, historical trends, seasonality and size of the car travel market.
1. **Bureau of Transportation Statistics** - DB1B and T100 databases include air traffic trends, seasonality and size of the air travel market.
2. **Las Vegas Visitors and Convention Authority** - visitor profile survey and statistics on Las Vegas market size, visitor characteristics, market segmentations and historical trends.
3. **Las Vegas Gaming Companies** - company annual reports and other industry documents.
4. **Southern California Association of Governments (SCAG) -** transport model including assumptions on journey times by car.
5. **Regional transport plans** - check on future year travel time, modal improvements and cost assumptions.
6. **XpressWest Investment Grad Ridership and Revenue Study –** select data available upon request.
7. **California High Speed Rail Authority** – all ridership studies
8. **Federal Railroad Administration** - data such as the Southwest Multi-State Rail Planning Study or other applicable studies
9. **US Census Bureau** - data at regional/county level
10. **U.S. Energy Information Administration (EIA)** - forecasts of short- and long-term oil prices and California fuel prices
11. **Airport information** - passenger statistics and Official Airline Guide (OAG) data on flights for
12. **Las Vegas Upcoming Projects** - Current Las Vegas Strip capital improvement and development projects
13. **Los Angeles Metropolitan Transportation Authority** – ridership statistics for Metrolink service.

Collection and Analysis of Non-Public Data:

1. **Focus groups** – conduct a qualitative overview of traveler priorities and preferences through in-person group interviews and discussions for input to stated preference design process.
2. **Stated Preference (SP) survey**s – conduct SP surveys panel, postcard or other methodology. It is imperative that the selection method of SP participants is of the upmost quality in terms of representing a normalized, unbiased, distribution of respondents that accurately reflect the respective market. SP surveys should cover the following:
    a. Reference trip and segmentation information: journey purpose, time of travel, origin and destination, access time, service frequency, frequency of travel, ticket type and cost.
    b. Information on alternatives not chosen to provide a source of Revealed Preference (RP) information.
    c. Introduction to HSR service: explaining the nature of the new service and new stations.
    d. Identify perceived times and modes used.
    e. Identify demographic information.
    f. Quantify potential for induced demand
    g. Stated preference exercises

i. HSR against current mode: to measure the effects of different fares, journey times and egress times plus any inherent benefit from use of HSR as opposed to existing modes.
ii. Explore preferences for station access mode and time.

h. Identify segmentation variables:
i. By Trip Origin-Destination
ii. Day of Week, Time of Day, Direction of Travel
iii. By current mode (Air, Coach, Car, Rail)
iv. By Trip Purpose (Business, Non-Business)
v. Trip duration (Day Trip, Overnight, Longer duration)
vi. Group Size (Single Travelers, Groups)
vii. Luggage (Hand Luggage, Check-in luggage)
viii. Use of Car in Las Vegas (Yes, No)
ix. Use of car in-route
x. Hotel Area within Las Vegas and California (Strip, Downtown, Elsewhere)

3. **License plate and occupancy surveys** - Check on patterns of movement and vehicle occupancies.
4. **Specialty Reports** - commission specialty research companies as applicable for market-specific information and future growth forecasts
5. **Cell phone data** - develop patterns of origins and destinations between Southern California and Las Vegas. Validate assumptions on journey times by car.

Develop the Forecasting Model:

1. Develop comprehensive forecasting model to generate projected revenue forecasts.
2. Develop forecasts of growth of in-scope market. Identify how potential in-scope trips will change through time.
3. Collate network information: times, costs, etc. Determine the competitive position of alternative modes of transport.
4. Determine propensity to use HSR service. Quantify the sensitivity of travelers to time, cost and other mode choice decision drivers.
5. Capability to aggregates the results of the various other model components and assumptions for exogenous growth factors (such as GDP, employment and population) and endogenous growth factors (such as performance, revenue protection and marketing), and projects changes in fares, revenue, passenger miles and journeys.
6. Include an "assumptions table" that lists all the key parameters and model inputs. Once the initial forecasts have been prepared, they can then be jointly reviewed against the assumptions table. This will allow for easy review, sensitivity tests and risk analysis. And should show the capture rates and a breakdown of HSR demand by mode and journey purpose.
7. Include yield/revenue management and database marketing factors:
a. Identify example yield management strategies to support revenue optimization.
b. Revenue-maximize Base Case forecasts by applying yield management factors
c. Thoroughly research database marketing activities implemented by Las Vegas hotel/casino companies and calibrate revenue results as applicable to include such factors

Produce Investment Grade Ridership and Revenue forecasts:

1. Develop forecasting assumptions and display in a straightforward manner
2. Develop "Base Case" forecasts for the following phases of the project's implementation

   a. Las Vegas to Palmdale high speed rail service with an intermediate station in Victorville and connection to enhanced/express Metrolink service in Palmdale.
   b. Las Vegas to Burbank high speed rail service with intermediate stations in Palmdale and Victorville
   c. Las Vegas to Los Angeles high speed rail service with intermediate stations in Burbank, Palmdale and Victorville.

3. Conduct Sensitivity Tests
   a. Define appropriate range, with explanation thereof, of estimates for the HSR project in order establish "Upside" and "Downside" scenarios
   b. Identifying the robustness of the forecasts by exploring the variances introduced through changes in both exogenous and endogenous factors using Monte Carlo simulations, or otherwise as applicable.

Benchmark Results:

1. Identify, review and evaluate proper comparable, and incomparable, projects
2. Confirm validity using comparable project data