



WiFi On Caltrain

JPB Citizens' Advisory Committee Briefing

Agenda Item 7

February 2015



WiFi on Caltrain

Key Considerations

- An outcome of leveraging a wireless communications system used for other purposes on Caltrain
- WiFi service must be highly reliable and accommodate future growth
- Competitively bid solution, not a piecemeal solution
- No net capital cost to the agency

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Early 2013

- Hired marketing firm to generate interest in a potential RFP for WiFi services.
- Marketing firm pitched Caltrain opportunity to a number of Bay Area and nationally known organizations
- Quantifiable interest would result in the District seeking bids (likely from a consortium of providers)
- Lots of initial interest from equipment providers willing to donate equipment. Caltrain seeks a total solution wherein the system would be built and maintained by a 3rd party

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Summer 2013

- With CBOSS/PTC also comes a fiber backbone along our ROW. Leveraging Caltrain owned fiber backbone determined to yield a better solution for passenger WiFi than cellular. New Capital cost estimates required. While this will be a more expensive solution, it will provide for a much more robust system that will be more attractive to sponsors.
- Fiber backbone installation and lighted along ROW owned by Caltrain completed by end of 2015

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Fall 2014

- Engaged 2 firms to help Caltrain preliminarily design its WiFi system. This includes developing capacity requirements, coverage design and radio environment surveys
- Caltrain intends on leveraging the value of its ridership, ROW ownership, and its fiber backbone as part of any agreement
- Additional work includes establishing the business case for sponsorship including estimates of costs for constructing and operating the system

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Winter 2014 & Spring 2015

- Completed solution design and cost estimates based upon an engineering design study of the proposed solution
- Benefits of the engineering design study included:
 - Ensures that a sponsor provides adequate funding for the solution
 - Enables Caltrain to understand true costs should it eventually decide to self-fund
 - Solution design will be included in an RFI solicitation allowing for improved responses
- Include the completed design study in a “Request for Interest” for providing WiFi services. Hold an “Industry Day” wherein integrators, sponsors, equipment providers and financiers can come together to understand the opportunity

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Design Solution (30% Design)

- Use of fiber optic backbone, poles and towers on Caltrain ROW
- Train to Ground radios operating on an unlicensed 5 GHZ Spectrum
- 100 wayside radio sites (39 existing and 69 new sites)
- 48 miles of track with poles every .48 miles
- 24 train sets fit with WiFi equipment plus train to ground equipment in the cab car
- Back Office Monitoring Equipment

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Project Cost Estimate (Based on 30% Design Solution)

- Cost estimate includes
 - Additional poles (and utilities)
 - Wayside equipment
 - On-board equipment
 - Back office monitoring equipment
- Completed solution design and cost estimates based upon an engineering design study of the proposed solution
 - Estimated cost to Design and construct = \$27.2 Million
 - Total Installed Cost (Includes Internal costs, bonding and Insurance) = \$42.4 Million
 - Annual Operating and Maintenance costs = \$700,000

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Summer 2015

- Completed Request for Interest (RFI) document for providing WiFi services
- Met with C&P and Legal Staff concerning RFI process
- Preliminary planning for an “Industry Day” wherein integrators, sponsors, equipment providers and financiers can come together to understand the opportunity
- Conducted meeting with Internal Stakeholder Group

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Fall 2015 - ongoing

- Potential Peninsula Corridor Electrification Project synergy
- Current plans do not include building system-wide WiFi related communication infrastructure
- Analysis to determine if able to support District WiFi Service:
 - Technically feasible to utilize poles and other PCEP infrastructure for Wi-Fi purposes?
 - Potential cost, time, and revenue service disruption savings?
 - Design and associated infrastructure changes?

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Unresolved Policy Issues

- Pros and Cons of different options
- Is there staff and financial capacity to proceed

Next Steps

- Focus future survey efforts to better understand customer utilization of WiFi on Caltrain
- Complete analysis related to PCEP
- Evaluate options and business plan