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