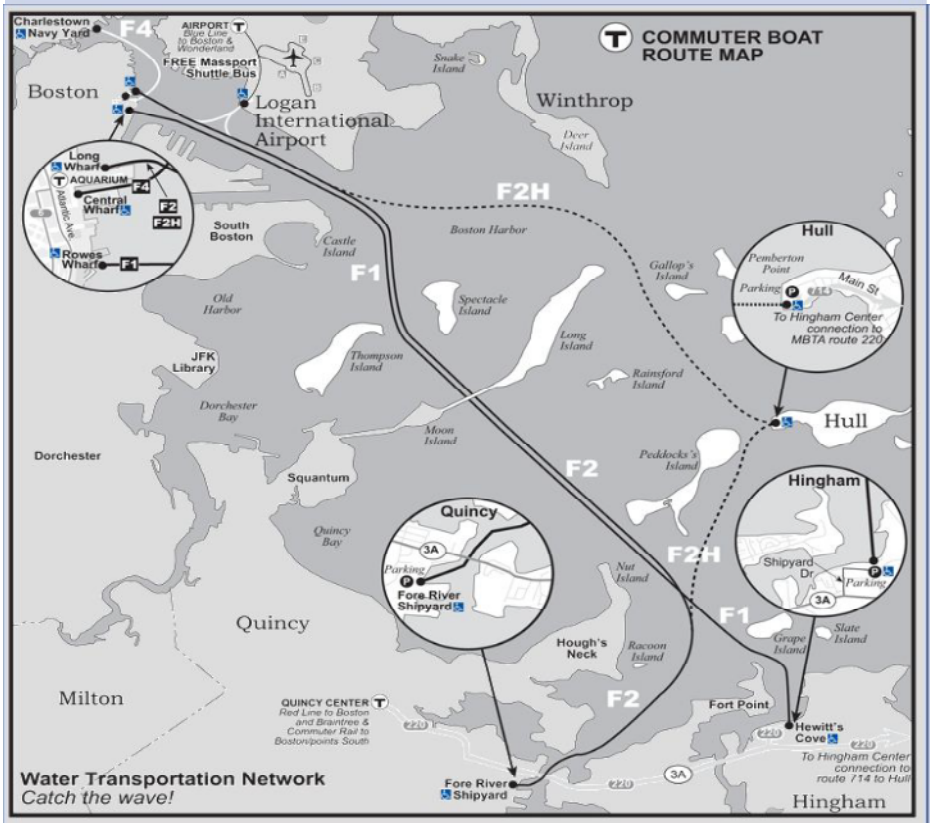
MBTA Wi-Fi
For Commuter Trains & Ferry Boats


LEGEND
Commuter Rail
Rapid Transit Line
Free shuttle bus service provided by Massport
Accessible Station
Transfer Station
Terminus Station
HAVERHILL
NEWBURYPORT
ROCKPORT
LOWELL
N. Billerica
Wilmington
Anderson/Woburn
Mishawum
Winchester Center
Wedgemere
Wildcat Branch
Bradford
Lawrence
Andover
Ballardvale
N. Wilmington
Reading
Wakefield
Greenwood
Melrose Highlands
Melrose/Cedar Park
Wyoming Hill
Rowley
Ipswich
Hamilton/Wenham
N. Beverly
Gloucester
W. Gloucester
Manchester
Beverly Farms
Prides Crossing
Montserrat
Beverly
Salem
Swampscott
Lynn
River Works
WONDERLAND
Chelsea
OAK GROVE
W. Medford
Malden Center
ALEWIFE
Porter
FITCHBURG
LECHMERE
RED LINE
NORTH STATION
BLUE LINE
Airport
AIRPORT TERMINALS
Logan International Airport
BOWDOIN
Haymarket
Government Center
State
Park St
WORCESTER
BOSTON COLLEGE "B"
GREEN LINE
CLEVELAND CIRCLE "C"
RIVERSIDE "D"
Kenmore
Copley
Downtown Xing
SILVER LINE
SL1
SL2
SL3
SL4
SL5
Boylston
Chinatown
Tufts Med
BACK BAY
SOUTH STATION
DESIGN CENTER
Yawkey
GREEN LINE
ORANGE LINE
Ruggles
HEATH "E"
DUDLEY SQ
JFK/UMass
NEEDHAM HEIGHTS
FOREST HILLS
Uphams Corner
Talbot Ave
Morton St
ASHMONT
RED LINE
Quincy Center
MATTAPAN HIGH-SPEED LINE
MATTAPAN
Fairmount
Hyde Park
Readville
Endicott
Dedham Corp. Center
Islington
Norwood Depot
Norwood Central
Windsor Gardens
Plimptonville
Walpole
Norfolk
Franklin/Dean College
FORGE PARK/495
Route 128
Canton Junction
Canton Center
STOUGHTON
Sharon
Mansfield
Attleboro
S. Attleboro
Providence
T.F.Green
WICKFORD JUNCTION
BRAINTREE
Holbrook/Randolph
Montello
Brockton
Campello
Bridgewater
MIDDLEBOROUGH/LAKEVILLE
KINGSTON
PLYMOUTH
S. Weymouth
Abington
Whitman
Hanson
Halifax
Cohasset
N. Scituate
GREENBUSH
Weymouth Landing
E. Braintree
E. Weymouth
W. Hingham
Nantasket Jct


COMMUTER BOAT ROUTE MAP
Charlestown Navy Yard
F4
AIRPORT Blue Line to Boston & Wonderland
FREE Massport Shuttle Bus
Boston
Logan International Airport
Snake Island
Winthrop
Deer Island
Long Wharf
AQUARIUM
Central Wharf
Rowes Wharf
F2
F2H
F1
South Boston
Castle Island
Boston Harbor
Old Harbor
Spectacle Island
Gallop's Island
Long Island
Thompson Island
Rainsford Island
JFK Library
Dorchester Bay
Moon Island
Peddocks's Island
Dorchester
Squantum
Quincy
Quincy Bay
Fore River Shipyard
Nut Island
Hough's Neck
Racoon Island
Grape Island
Slate Island
Milton
QUINCY CENTER
Red Line to Boston and Braintree & Commuter Rail to Boston/points South
Fort Point
Hewitt's Cove
Hull
Pemberton Point
Parking
Main St
To Hingham Center connection to MBTA route 220
Hingham
Shipyard Dr
To Hingham Center connection to route 714 to Hull
3A
Water Transportation Network
Catch the wave!

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SECTION A - COVER LETTER

January 6, 2014

Transit Realty Associates, LLC
77 Franklin Street, 9th Floor
Boston, MA 02110
Attn: Francis DeCoste, Chief Operating Officer
Re: MBTA Wi-Fi

Dear Mr. DeCoste,

In response to the posted Request for Proposals for Wi-Fi Services in your commuter Trains, Stations and Ferry Boats, and on behalf of inMOTION Wireless I am happy to submit this enhanced Private Network proposal focused and dedicated only to MBTA passengers and includes ALL railcars and Ferry Boats.

Our multimedia model offers the MBTA a dedicated network suited only to the commuter railroad and ferry boat applications. We believe our innovative approach offers the most attractive revenue stream and is complemented with the most reliable, fastest and robust Internet access for your passengers deployed over a new Tower infrastructure. Our complete system offering is free of charge to the MBTA.

Additionally, inMOTION Wireless thru existing business relationships with P3GM will offer enhanced value to the MBTA and the MBTA commuters by offering Smart LED platform applications in parking and building areas integrated with sensory applications and other communications solutions such as Interactive Way Finding Kiosks, Digital Media, Pole Banners, Machine-to-Machine (M2M) Networking and Data Analysis.

I am looking forward to our continued cooperation and substantive discussions to offer the best service to your customers and the commuting public in Boston leading to a contract award and eventually the service introduction to your commuters.

Sincerely,

Dimitrios Lalos
President and CEO
inMOTION Wireless Inc.
655 W. Grand Avenue
Suite 300
Elmhurst, IL. 60126
Telephone: 630.474.6699
Email: dlalos@inmotionwireless.com

SECTION B - COMPLIANCE STATEMENT

a) Plan for removal of current Wi-Fi equipment on vehicles. Please note that labor will be supplied through the MBTA. Handling of costs will be negotiated with the Provider based on the approved removal plan

WILL WORK WITH MBTA STAFFF TO PLAN REMOVAL

b) Purchase and installation of a continuous, secure Wi-Fi system on Commuter Rail coaches, Commuter boats and included stations.

COMPLIED

c) System operations and maintenance. (On vehicle maintenance to be negotiated with the Provider)

WILL WORK WITH MBTA TO NEGOTIATE METHODS AND COSTS

d) Additional capital investment as required to assure the system is up to date and viable with evolving performance expectations.

COMPLIED

At a minimum, a Proposal must describe in layman's terms:

1. The nature of the system.
   PRIVATE DEDICATED NETWORK TO MBTA
2. Whether it is neutral host or specific carrier based.
   NEUTRAL HOST
3. The technology platform to be used.
   LTE SMALL CELL MULTI-CARRIER
4. Technical specifications of the system
   AS PROVIDED ON THE SOLUTION OFFERING COMPARISON SECTION
5. The capacity of the system.
   AS PROVIDED ON THE SOLUTION OFFERING COMPARISON SECTION
6. How many coaches/boats will contain equipment?
   ALL RAILCARS WOULD BE INSTALLED.
   ALL FERRY BOATS WOULD BE INSTALLED.
7. What will be the bandwidth capacity on the coaches/boats and in the three stations containing equipment?
   RAILCARS WOULD PERFORM TO A MINIMUM OF 1.5 MBPS PER USER (20 SIMULTANEOUS USERS PER RAILCAR).
   FERRYBOATS WOULD PERFORM TO A MINIMUM OF 1.5 MBPS PER USER
   STATIONS WILL PERFORM TO CONVENTIONAL WI-FI LAND BASED SYSTEMS WITH ACCESS POINTS RATED AT A MINIMUM OF 1.3 GBPS.
8. Will "Proportional Bandwidth" software be installed as part of the system?
   SYSTEM WILL WORK ASYMMETRICALLY BURSTING TO MAXIMUM SPEEDS OF 15 MBPS PER USER

9. Content Limitation. MBTA policy prohibits certain type of advertisements. How will these policies be implemented?
   inMOTION OPERATES ITS OWN PRIVATE NETWORK THUS ALL CONTENT REGARDLESS OF ITS ORIGIN WILL BE REGULATED PER MBTA GUIDELINES
10. Equipment Installation.
    BASED ON NEGOTIATED AGREEMENT WITH THE MBTA
11. The number of coaches/boats that will be equipped. Note: a summary of MBTA rolling stock is shown under "Project Specific Information".
    ALL COACHES AND FERRY BOATS WILL BE INSTALLED. INMOTION UNDERSTANDS THAT STOCK WILL BE ADDED OR RETIRED PER MBTA PLANS
12. The specifications of the equipment and installation requirements for in each coach/boat and each of the three stations.
    AS PROVIDED ON THE TECHNOLOGY SECTION
13. Description and specifications of the software that will be used to manage the system.
    AS PROVIDED ON THE TECHNOLOGY SECTION
14. How quickly coaches/boats and three stations can be equipped from the time they are made available for installation.
    WE BELIEVE EACH INSTALLATION WOULD TAKE 2-3 HOURS PER RAILCAR/FERRY BOAT
    WE ARE PREPARED TO WORK ON MULTIPLE LINES TO ACHIEVE MULTIPLE RAILCAR/FERRY BOAT INSTALLATIONS PER NIGHT
15. Estimated equipment installation costs.
    WE ARE ESTIMATING 2-3 HOURS OF LABOR PER RAILCAR/FERRY BOAT AT REGULAR UNION LABOR RATES
16. Estimated annual operating costs for first full year of operation of the full fleet.
    INCLUDED ON THE FINANCIAL SECTION
17. Equipment, towers and/or other Support Facilities.
    WE ARE ESTIMATING 140 STATIONS WOULD BE BUILD FOR THE BASE STATION NETWORK. THE MAJORITY OF THE STATIONS WOULD BE HOSTED AT EXISTING BOARDING STATION FACILITIES
18. Identify proposed support facility and Equipment build-out and/or any "holes" in the proposer's existing system which will require supplementary sites on MBTA property.
    AS PROVIDED ON THE TECHNOLOGY SECTION. WE ANTICIPATE NO COVERAGE HOLES.
19. Operations and Maintenance Plan.
    AS PROVIDED ON THE EQUIPMENT SECTION
20. The plan shall detail how the system is monitored, the frequencies of inspections, replacements, and improvements during the term, and how repairs and maintenance will be handled including response times.
    AS PROVIDED ON THE EQUIPMENT SECTION
21. Detail the proposed customer service program for responding to users' complaints, suggestions, and comments.
    AS PROVIDED ON THE CUSTOMER SERVICE SECTION

SECTION C - FORMS

Form A

FORM A –FINANCIAL PLAN AND PRO FORMA

The undersigned hereby submits this offer for MBTA Wi-Fi Program on the MBTA Commuter Rail coaches, boats and selected commuter rail stations, subject to the provisions contained in the "Request for Proposals – MBTA Wi-Fi Program For Commuter Rail and Boat Service" dated November 13, 2013 (the "RFP") in exchange for the compensation and deliverables to the MBTA summarized below and attached Pro Forma and other proposal materials.

Proposed Term of the License: 20 years (not to exceed twenty (20) years)
Annual License Fee Summary

Proposers may include a suggested payment structure over the license term if desired.

Offerors must include a financial plan detailing costs and values. The financial plan must provide a pro forma for the term of the License that includes a capital investment plan, with the anticipated initial and on-going capital, operating and maintenance costs. The pro forma must also specify cash payments to or from the MBTA. It should also specify any charges to MBTA customers. The pro forma should, at a minimum include:

- Capital investments (itemize: equipment on cars, boats, stations, towers, signs etc.).
- Annual Maintenance and Operating Costs.
- Fees to MBTA and/or its customers.
- Revenue opportunities /cost reductions to MBTA.
- Non-cash value to the MBTA

A summary sheet must be included in the front of the financial plan and the pro forma.

Refer to RFP Section 3.7.2.

In submitting this Offer for the MBTA Wi-Fi Program, the undersigned hereby acknowledges that he/she has received and read a copy of the MBTA's "Request for Proposals" noted above, has acquainted himself/herself with all matters therein referred to, and agrees to all terms and conditions thereof.

Further, by submitting this Offer I/we agree:

- I/we assume all responsibility for errors or misinterpretations resulting from the use of this RFP;
- I/we accept responsibility for becoming familiar with all the facilities, documents, terms and requirements of this procurement; and
- I/we understand that this offering will be awarded based on the Best Value to the MBTA in its sole discretion and determination and not necessarily the highest financial offer.

_____Initial

The undersigned or the entity that the undersigned represents is ready, willing and able to enter into a license within sixty (60) days of designation in accordance with the terms provided in this RFP, and substantially similar to the terms provided in the Draft Term Sheet in Appendix D.

The undersigned hereby declares that its proposal is submitted directly to the MBTA through its Designated Representative, TRA, and involves no broker's commission to be paid by the MBTA. Notwithstanding the foregoing, the MBTA shall be solely responsible for any amounts due to TRA.

This completed document is submitted as our formal offer for the MBTA Wi-Fi Program described in this RFP. Once submitted, we agree that we will not withdraw or amend our offer until the process for awarding a successful provider is completed. By completing and submitting this document, we agree that the MBTA has complete and absolute discretion in assessing the suitability of our offer. We understand and accept that the MBTA has no obligation to enter into any agreement, nor to discuss the basis for any decision not to progress with the program. We agree that all communications and any negotiations between us and the MBTA are to be kept confidential and that no information will be passed to any third party except where required by law.

The undersigned declares under the penalties of perjury provided for in the General Laws of the Commonwealth of Massachusetts, and hereby certifies that all of the information and statements contained in this proposal to the MBTA are true, accurate and complete. The undersigned agrees that in the event that circumstances, reflected in the information and statements made herein, change, the undersigned will promptly notify TRA in writing by certified mail or hand delivery. The undersigned also understands that a misstatement, omission and/or failure to update information may be cause for the MBTA to reject the undersigned's Offer.

The undersigned hereby authorizes and requests any person(s), firm(s), financial institution(s) or corporation(s) to furnish any information requested by the Authority or its designated representative in verification of the recitals regarding the Offeror's submission, or any other information submitted.

The undersigned hereby certifies that he/she is authorized to sign this Offer on behalf of the Offeror and, if the Offeror is a Corporation, Limited Liability Company, Partnership, Limited Partnership or other similar entity in accordance with the ATTACHED SIGNED AND SEALED AUTHORIZATION.

inMOTION Wireless Proprietary and Confidential Data

SIGNED AND SEALED:

inMOTION Wireless Inc.
Print Company Name

By: [signature]
Signature

DIMITRIOS LALOS
Print Name

President
Title

655 W. Grand Ave, Elmhurst IL 60126
Street Address

City State Zip Code

CONTACT PERSON: Dimitrios Lalos

TELEPHONE: 630-474-6699

EMAIL: dlalos@inmotionwireless.com

inMOTION Wireless Proprietary and Confidential Data

OFFEROR'S AFFIDAVIT
(One Affidavit to be signed for each entity)

The undersigned, being duly sworn, deposes and says that s/he is the

President

[sole owner, partner, president, treasurer, or other duly authorized official of a corporation]

of inMOTION Wireless Inc.
Name of Offeror as Appearing in Submitted Offer

and certifies under penalties of perjury that this Financial Offer is in all respects bona fide, fair and without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

Signature (Duly Authorized)

Dimitrios Lalos
Print Name

President
Print Title

County of Cook, ss 1/16/14 2014

On this 16th day of January 2014 before me, the undersigned notary public, personally appeared Dimitrios Lalos proved to me through satisfactory evidence of identification, which were DL, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Seal

Notary Public

Weronika Lesnicki
Print Name:

July 11 2017
My commission expires

"OFFICIAL SEAL"
WERONIKA LESNICKI
Notary Public - State of Illinois
My Commission Expires July 11, 2017

META Wi-Fi Program

Projected pro-forma information

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Income Statement						
"REVENUES" from Services						
WiFi Access	$ -	$ 555,667	$ 2,083,752	$ 2,778,336	$ 3,056,170	$ 3,472,920
Multimedia	$ -	$ 4,021,500	$ 20,015,580	$ 37,600,807	$ 55,983,423	$ 77,362,093
Total Revenues	**$ -**	**$ 4,577,167**	**$ 22,099,332**	**$ 40,379,143**	**$ 59,039,593**	**$ 80,835,013**
Operating expenses						
Multimedia R&D development	$ 642,070	$ 1,009,500	$ 1,862,096	$ 1,946,176	$ 1,250,000	$ 1,400,000
Network Operations & Maintenance	$ 170,351	$ 340,412	$ 400,088	$ 492,740	$ 500,524	$ 636,392
Base Station Network OPEX	$ 2,516,640	$ 2,516,640	$ 2,516,640	$ 2,516,640	$ 2,516,640	$ 2,516,640
General & administrative Wi-Fi	$ 1,300,492	$ 1,959,584	$ 3,919,168	$ 4,507,043	$ 4,957,748	$ 5,403,945
Sales & Marketing	$ 215,360	$ 980,500	$ 1,315,024	$ 1,600,892	$ 1,899,104	$ 1,899,104
Total Expenses	**$ 4,844,913**	**$ 6,806,636**	**$ 10,013,016**	**$ 11,063,491**	**$ 11,124,016**	**$ 11,856,081**
Earnings (loss) before interest, tax, depreciation & amortization (EBITDA)	**$ (4,844,913)**	**$ (2,229,469)**	**$ 12,086,316**	**$ 29,315,651**	**$ 47,915,577**	**$ 68,978,932**
Interest Expense	$ -	$ -	$ -	$ -	$ -	$ -
Depreciation	$ (280,208)	$ (714,958)	$ (899,041)	$ (990,152)	$ (1,114,424)	$ (1,254,294)
Income (loss) before tax	**$ (5,125,121)**	**$ (2,944,427)**	**$ 11,187,275**	**$ 28,325,500**	**$ 46,801,153**	**$ 67,724,638**
Income taxes	$ -	$ -	$ -	$ -	$ -	$ -
Net income (loss)	**$ (5,125,121)**	**$ (2,944,427)**	**$ 11,187,275**	**$ 28,325,500**	**$ 46,801,153**	**$ 67,724,638**

Balance Sheet

Current assets						
Cash on hand	$ 2,758,674	$ 2,146,909	$ 13,399,756	$ 42,380,721	$ 89,990,099	$ 158,708,274
Accounts receivable	$ -	$ -	$ -	$ -	$ -	$ -
Inventory	$ -	$ -	$ -	$ -	$ -	$ -
Total current assets	**$ 2,758,674**	**$ 2,146,909**	**$ 13,399,756**	**$ 42,380,721**	**$ 89,990,099**	**$ 158,708,274**
Non-current assets						
Network Equipment	$ 2,397,930	$ 4,781,742	$ 5,615,970	$ 5,950,657	$ 6,256,856	$ 6,517,614
Other	$ -	$ -	$ -	$ -	$ -	$ -
Accumulated depreciation/amortization	$ (280,208)	$ (995,166)	$ (1,894,207)	$ (2,884,358)	$ (3,998,782)	$ (5,253,077)
Total non-current assets	**$ 2,117,722**	**$ 3,786,576**	**$ 3,721,763**	**$ 3,066,299**	**$ 2,258,074**	**$ 1,264,537**
Total assets	**$ 4,876,396**	**$ 5,933,485**	**$ 17,121,520**	**$ 45,447,020**	**$ 92,248,173**	**$ 159,972,811**
Current liabilities						
Accounts payable	$ 1,517	$ 3,033	$ 3,792	$ 3,792	$ 3,792	$ 3,792
Income Tax Payable	$ -	$ -	$ -	$ -	$ -	$ -
Total current liabilities	**$ 1,517**	**$ 3,033**	**$ 3,792**	**$ 3,792**	**$ 3,792**	**$ 3,792**
Non-current liabilities						
Loan	$ -	$ -	$ -	$ -	$ -	$ -
Total non-current liabilities	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total liabilities	**$ 1,517**	**$ 3,033**	**$ 3,792**	**$ 3,792**	**$ 3,792**	**$ 3,792**
Equity						
Equity contribution	$ 10,000,000	$ 14,000,000	$ 14,000,000	$ 14,000,000	$ 14,000,000	$ 14,000,000
Retained earnings	$ (5,125,121)	$ (8,069,548)	$ 3,117,728	$ 31,443,228	$ 78,244,381	$ 145,969,019
Total owners' equity	**$ 4,874,879**	**$ 5,930,452**	**$ 17,117,728**	**$ 45,443,228**	**$ 92,244,381**	**$ 159,969,019**
Total liabilities & owner's equity	**$ 4,876,396**	**$ 5,933,485**	**$ 17,121,520**	**$ 45,447,020**	**$ 92,248,173**	**$ 159,972,811**

Cash Flow Statement

Operating activities						
Net income (loss)	$ (5,125,121)	$ (2,944,427)	$ 11,187,275	$ 28,325,500	$ 46,801,153	$ 67,724,638
Add: Depreciation/Amortization	$ 280,208	$ 714,958	$ 899,041	$ 990,152	$ 1,114,424	$ 1,254,294
Changes in working capital	$ 1,517	$ 1,516	$ 759	$ -	$ -	$ -
Cash from operations	**$ (4,843,396)**	**$ (2,227,953)**	**$ 12,087,075**	**$ 29,315,651**	**$ 47,915,577**	**$ 68,978,932**
Investing activities						
Purchase of Wi-Fi Network Equipment	$ (1,920,430)	$ (1,732,082)	$ (429,468)	$ (171,787)	$ (146,019)	$ (137,430)
Purchase of other fixed assets	$ (477,500)	$ (651,730)	$ (404,760)	$ (162,900)	$ (160,180)	$ (123,328)
Cash used for investing activities	**$ (2,397,930)**	**$ (2,383,812)**	**$ (834,228)**	**$ (334,687)**	**$ (306,199)**	**$ (260,758)**
Net cash before financing	**$ (7,241,326)**	**$ (4,611,765)**	**$ 11,252,847**	**$ 28,980,964**	**$ 47,609,378**	**$ 68,718,175**
Financing activities						
Proceeds from equity	$ 10,000,000	$ 4,000,000	$ -	$ -	$ -	$ -
Proceeds from Loan	$ -	$ -	$ -	$ -	$ -	$ -
Repayment of Loan	$ -	$ -	$ -	$ -	$ -	$ -
Cash used for financing activities	**$ 10,000,000**	**$ 4,000,000**	**$ -**	**$ -**	**$ -**	**$ -**
Net increase (decrease) in cash	**$ 2,758,674**	**$ (611,765)**	**$ 11,252,847**	**$ 28,980,964**	**$ 47,609,378**	**$ 68,718,175**

MBTA ESTIMATED NON-FARE INCOME

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Income Statement						
Total Revenues	**$ -**	**$ 4,577,167**	**$ 22,099,332**	**$ 40,379,143**	**$ 59,039,593**	**$ 80,835,013**
Total Expenses	**$ 4,844,913**	**$ 6,806,636**	**$ 10,013,016**	**$ 11,063,491**	**$ 11,124,016**	**$ 11,856,081**
EBITDA	**$ (4,844,913)**	**$ (2,229,469)**	**$ 12,086,316**	**$ 29,315,651**	**$ 47,915,577**	**$ 68,978,932**
Depreciation	$ (280,208)	$ (714,958)	$ (899,041)	$ (990,152)	$ (1,114,424)	$ (1,254,294)
Income (loss) before tax	**$ (5,125,121)**	**$ (2,944,427)**	**$ 11,187,275**	**$ 28,325,500**	**$ 46,801,153**	**$ 67,724,638**
Operating activities						
Net income (loss)	$ (5,125,121)	$ (2,944,427)	$ 11,187,275	$ 28,325,500	$ 46,801,153	$ 67,724,638
Add: Depreciation/Amortization	$ 280,208	$ 714,958	$ 899,041	$ 990,152	$ 1,114,424	$ 1,254,294
Changes in working capital	$ 1,517	$ 1,516	$ 759	$ -	$ -	$ -
Cash from operations	**$ (4,843,396)**	**$ (2,227,953)**	**$ 12,087,075**	**$ 29,315,651**	**$ 47,915,577**	**$ 68,978,932**

Non-fare revenue generation over the 20 year contract period (before tax) is estimated at $72,428,000 or $3.62 million per year.

Numbers reflect Wi-Fi and Live TV services only. Additional revenue could be obtained from added value services such as fiber optics telecom availability, Tower leasing, smart parking, stationary advertising, energy reduction, etc. We are estimating that revenues from such services could double the potential revenues projected for Wi-Fi and Live TV.

Form B

		Reference Tab	Reference Page
	Background and References		
1	Prime Proposer: Name, address, main phone number, fax number, website.	G	47
2	Provide the following information for each subprime participant: Name, address, main phone and number, website URL, legal form of organization, nature of participation, percentage ownership of project by each entity, DBE status.	NONE	NONE
3	Contact Person for this RFP : Name, title, address, phone number, fax number, email address	A	5
4	Federal Tax Identification Number	46-4105718	NONE
5	Attach evidence of good standing with the Commonwealth of Massachusetts. Firms and principals must not be debarred from public contracting with the federal, state, and/or MBTA.	C	22-26
6	Provide documentation that Proposer licensed to provide Wi-Fi /telecommunications services in the Commonwealth of Massachusetts.	E	42
7	Provide a detailed overview of your company including firm history, length of time in business and the length of time in business providing the specific services required in the RFP, size, and organization structure.	G & H	47-54
8	Has the business ever had a prior contractual relationship with the MBTA? If yes, please explain.	NONE	NO
9	Have any of the business owners in this endeavor ever been convicted of felony violations of Federal, state or local laws? If yes, please explain.		23-26
10	Are there any pending or recent law suits against the business or its owners and/or, have you ever had a contract terminated for cause? If yes, please explain.	C NO	22-26
11	Provide the name, address, account number, contact person and telephone number of your insurance agent.	D	Kasey Brennan, Coverall Insurance Services, LLC, 7620 W 159th Street, Orland Park, IL 60462, 708-428-4177 99-104
12	Provide the name, address, contact person, and telephone number and email addresses of three (3) references for clients, business associates with knowledge of Proposer's work within the last 5 years. By providing this information Proposer agrees that they can be contacted for reference.	I	55

		Reference Tab	Reference Page
	Financial Responsibility		
13	Provide the name, address, account number, contact person and telephone number of your primary bank.	J	56
14	Provide the name, address, account number, contact person, and telephone number of at least one (1) reference from financial business partners.	K	58
15	Has this business or any of the business' owners ever filed for bankruptcy?	NO	
16	Provide the last three (3) years certified financial statements of the Proposer and any legal judgments and/or bankruptcies in the past five (5) years.	NEWLY INCORPORATED ENTITY	NO LEGAL JUDGEMENTS AND/OR BANKRUPTIES
17	List and briefly describe all legal actions for the past three (3) years in which your firm (or any team member) has been: (a) a debtor in bankruptcy; (b) a defendant in a lawsuit for deficient performance under a contract; (c) a respondent in an administrative action for deficient performance on a project; (d) a defendant in any criminal action. If a joint venture is submitting a response, this requirement shall apply to each member of the joint venture.	C NONE	22-26
18	Provide evidence that you can meet insurance requirements as provided in the Draft Terms Sheet in Appendix D.	D	36-41
	Experience		
19	Describe the overall experience of the Proposer for providing the required services herein, all participants, consultants, subcontractors, and the principals of each. Describe the relationship and responsibilities of the participants and provide evidence of the ability of each participant to carry out said responsibilities.	F/G/H	43-54 62-67
20	Demonstrate your experience in as a WIFI and/or telecommunications provider. Include nature and depth of service such as bandwidth, number of concurrent users, geographical area.	N/O/P/Q	68-103
21	Provide the resumes of the principals and key individuals who will be assigned in management capacity.	G	47-49
22	Describe management experience of similar scope and magnitude for similar services. Include a list of clients for which WIFI/telecommunications service has been provided including contract dates and duration, and geographic area of service.	H	50-54
23	Provide any additional information you feel relevant in evaluating the qualifications of you and your team.	L & M	60-67

Form C-N

FORM C

ADDENDA ACKNOWLEDGEMENT

Proposer acknowledges receipt of the following addenda to RFP: MBTA Wi-Fi Program, MBTA No. 12388

Addendum No.	Date
Addendum No. 1	Dated:
Addendum No. 2	Dated:
Addendum No.	Dated:
Addendum No.	Dated:
Addendum No.	Dated:
Addendum No.	Dated:

PROPOSER'S NAME: inMOTION Wireless

AUTHORIZED SIGNATURE: [signature]

TITLE: President

DATE: 1/14/14

FORM D

PROPOSER'S AFFIRMATIONS

CERTIFICATE OF BENEFICIAL INTEREST

I hereby state, subject to the penalties of perjury, that I have stated the addresses of all persons that have or will have a direct or indirect beneficial interest in the property which is the subject of the bid or proposal to which this certificate is attached, as required by the Massachusetts Bay Transportation Authority Enabling Act, Chapter 161A of the Massachusetts General Laws, and I further state that I have made such inquiry as is necessary to know the names of all those with a beneficial interest. The names and addresses of all persons who have a beneficial interest are:

Name	Residence Address	Telephone Number
Dimitrios Lalos	1217 Winners Cup Cr. St. Charles IL. 60174	(630)513-5210

[Attach additional sheet if more space needed]

The undersigned acknowledges and states that none of the above listed individuals is (1) an official elected to public office in the Commonwealth of Massachusetts or (2) an employee of the Massachusetts Bay Transportation Authority or of Transit Realty Associates, LLC.

SIGNED under the penalties of perjury

Print Bidder Name: inMOTION Wireless

Authorized Signature: [signature]

Print Signer's Name: Dimitrios Lalos

Title: President Date: 1/16/14

* If "persons" are publicly traded corporations, only owners of ten percent (10%) or more of the stock of companies traded on a national exchange need to be used.

County of Cook, ss 1/16/14 (Date), 20

On this 16th day of January, before me the undersigned notary public personally appeared Dimitrios Lalos, proved to me through satisfactory evidence of identification, which were DL, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his knowledge and belief.

[signature]
Notary Public

"OFFICIAL SEAL"
WERONIKA LESNICKI
Notary Public - State of Illinois
My Commission Expires July 11, 2017

Print Name: Weronika Lesnicki

My commission expires: July 11 2017

I hereby certify, under penalties of perjury, that the following statements are correct:

A. NON-COLLUSION STATEMENT

This certification is required by G.L. c. 30B, s. 12(b) and 801 CMR 21.06. Failure to provide this certification may result in rejection of the bid. By signature on this section, the undersigned certifies under the pains and penalties of perjury that the bid or proposal has been made and submitted in good faith and without collusion or fraud with any person. As used in this section, the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

B. DOMESTIC ENFORCEMENT SALES TAX

Pursuant to M.G.L. c. 62C, Sec. 49A, I certify under the pains and penalties of perjury that, to the best of my knowledge and belief, I have complied with all applicable Massachusetts state tax laws and have filed all state tax returns and paid all state taxes required under law.

46-4105718

Social Security Number or
Federal Identification Number

C. EMPLOYER'S CERTIFICATE OF COMPLIANCE WITH MASSACHUSETTS EMPLOYMENT AND TRAINING LAW

Pursuant to G.L. c. 151A, Sec. 19A(b), inMOTION Wireless
(Name of Employer)

D.E.T. ID Number _____ has complied with all laws of the Commonwealth relating to contributions and payments in lieu of contributions.[1]

[1] The employer may certify its compliance if it has entered into and is complying with a repayment agreement satisfactory to the Commissioner or if it is contesting liability for payment in an administrative proceeding or court action pursuant to the amount due pursuant to G.L. c. 151A, Sec. 19A(c).

SIGNED under the pains and penalties of perjury

Firm/Proposer Name: inMOTION Wireless

Authorized Signature: [signature]

Print/Type Name: Dimitrios Lalos

Title: President Date: 11/4/14

County of Cook, ss. 1/16/14 Date, 2012

On the 16th day of January, 2012 before me, the undersigned notary public, personally appeared Dimitrios Lalos, proved to me through satisfactory evidence of identification, which was DL, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

[signature]
Notary Public

Print Name: Weronika Lesnicki

My commission expires: July 11 2017

"OFFICIAL SEAL"
WERONIKA LESNICKI
Notary Public - State of Illinois
My Commission Expires July 11, 2017

FORM E

CONFLICT OF INTEREST CERTIFICATION

The undersigned hereby certifies that the Proposer shall comply with Massachusetts Conflict of Interest Laws, G.L. c. 268A.

PROPOSER'S NAME: inMOTION Wireless

AUTHORIZED SIGNATURE: [signature]

TITLE: President

DATE: 1/14/14

FORM F

Debarment, Suspension, Ineligibility And Voluntary Exclusion Form

The Contractor shall meet the requirements of 49 C.F.R. Part 29, as updated on November 26, 2003. 49 C.F.R. Part 29 implements Executive Order 12549, *Debarment and Suspension*, Executive Order 12689, *Debarment and Suspension*, and 31 U.S.C. 6101 note (Section 2455, Public Law 103-355, 108 Stat. 3327). The provisions of Part 29 apply to all contracts and subcontracts at any level expected to equal or exceed $25,000. This represents a change from prior practice in that the dollar threshold for application of these rules has been lowered from $100,000 to $25,000. As such, the Contractor is required to verify that none of its principals (defined at 49 C.F.R. 29.995), affiliates (defined at 49 CFR 29.905) or subcontractors it proposes to contract with to perform the work that is the subject of this solicitation are excluded or disqualified as defined at 49 C.F.R. 29.940 and 29.945. Contractors can do this by (a) checking the Excluded Parties List System, (b) collecting a certification, or (c) adding a clause or condition to the relevant contract or subcontract.

By signing this form, the Contractor certifies as follows:
The certification in this clause is a material representation of fact relied upon by the **MBTA**. If it is later determined that the Proposer knowingly rendered an erroneous certification, in addition to remedies available to the **MBTA**, the Federal Government may pursue available remedies, including, but not limited to, suspension and/or debarment. The contractor agrees to comply with the requirements of 49 C.F.R. 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The Proposer further agrees to include a provision requiring such compliance in its transactions.

THE CONTACTOR CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET SEQ. ARE APPLICABLE THERETO.

inMOTION Wireless Contractor

Signature and Title of Authorized Official

FORM F – 1

7.1 49 CFR Part 29

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

—Primary Covered Transactions

Instructions For Certification

By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

1. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

2. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

3. The prospective primary participant shall provide immediate written notice to the department or agency to which this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

5. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

6. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled' Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion- Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

FORM F-1 Continued

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Signature/Authorized Certifying Official

Dimitrios Lalos / President
Typed Name and Title

inMOTION Wireless
Applicant/Organization

1/14/14
Date Signed

FORM F -2

7.2 49 CFR Part 29

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion —Lower Tier Covered Transactions

Instructions For Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.

4. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

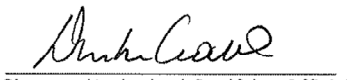
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

FORM F-2 Continued

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.



Signature/Authorized Certifying Official

Dimitrios Lolos /President

Typed Name and Title

inMOTION Wireless

Applicant/Organization

1/14/14

Date Signed

FORM G

Certification Regarding Lobbying

Under the Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 (to be codified at 2 U.S.C. § 1601 et seq.), Contractors who apply or bid for an award of $100,000 or more shall file the certification required by 49 CFR parts 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an office or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

I, Dimitrios Lalos/President, hereby certify on behalf of inMOTION Wireless

(Name and Title) (Proposer)

that to the best of my knowledge and belief:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal Contract, the making of any Federal grant, the making of any Federal loan, extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal Contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FORM G Continued

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The Proposer, inMOTION Wireless certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

PROPOSER'S NAME: inMOTION Wireless Inc.

AUTHORIZED SIGNATURE: [signature]

TITLE: President

DATE: 1/14/14

FORM H – AMENDED

CONFIDENTIAL INFORMATION AGREEMENT

BY THIS AGREEMENT, effective November 13, 2013, the Massachusetts Bay Transportation Authority (hereinafter "MBTA" or Authority") and inMOTION Wireless Inc (hereinafter "inMOTION") agree as follows:

MBTA will provide certain Confidential Information related to the Wi-Fi Program with potential proposers. MBTA will provide this information for use during the proposal preparation period in written or electronic form and said Confidential Information shall be identified as confidential when disclosed.

During the proposal preparation period, inMOTION will treat Confidential Information received from the MBTA as such and agrees not sell, transfer, disclose, display or otherwise make available to anyone any part of such Confidential Information without prior written consent of the Authority. inMOTION further agrees to limit access to MBTA Confidential Information to those of its employees, subcontractors, suppliers, and agents reasonably requiring access for the purposes of preparing a proposal in response to RFP No. 12388 MBTA Wi-Fi and who are obligated to treat the information in the way provided for herein with regard to confidentiality, use, and non-disclosure.

inMOTION agrees to return or destroy in an MBTA-approved manner all Confidential Information received from the MBTA at any time upon request by the MBTA.

This Agreement shall be effective for the proposal preparation period of November 13, 2013 through Designation, unless otherwise extended by the MBTA.

The foregoing is understood and agreed to.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	**PROPOSER**
	Name: inMOTION Wireless Inc.
By:_____	By: Dimitrios Lalos
Title:_____	Title: President
Date:_____	Date: 1/14/14

FORM J

Buy America Certification

The Bidder agrees to comply with 49 U.S.C. 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11. Rolling stock must be assembled in the United States and 60 percent (60%) domestic content.

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The Bidder hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 C.F.R. Part 661.5.

Date 1/14/14

Signature _____

Company Name inMOTION wireless Inc.

Title President

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The Bidder hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____

Signature _____

Company Name _____

Title _____

FORM K

PROHIBIT USE OF UNDOCUMENTED WORKERS CERTIFICATION

The Bidder agrees to comply with Massachusetts Executive Order 481, which applies to all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established. As it is the policy of the Executive Branch to prohibit the use of undocumented workers in connection with the performance of state contracts, all contracts entered into after February 23, 2007 require that contractors, as a condition of receiving Commonwealth funds under any Executive Branch contract, make the following certification:

CERTIFICATION:

As evidenced by the signature of the Bidder's Authorized Signatory below, the Bidder certifies under the pains and penalties of perjury that the Bidder shall not knowingly use undocumented workers in connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Bidder shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Bidder shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Bidder understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Bidder to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

inMOTION Wireless Inc. Date: 1/14/14
Company Name

Bidder Authorizing Signature

Dimitrios Lalos
Print Name

Title: President Telephone: (630) 4746699

Fax: _____ Email: dlalos@inmotionwireless.com

The Bidder is required to sign this Certification only once and may provide a copy of the signed Certification for any contract executed with an Executive Branch Department. A copy of this signed Certification must be attached to the "record copy" of all contracts with this Bidder that are filed with the contracting Department.

FORM L

Certification Of Compliance With Regulation 102 CMR 12.00

DEPENDENT CARE ASSISTANCE PROGRAM INCLUDING CHILD CARE

The undersigned hereby certifies that the Bidder is in compliance with Section 7 of Chapter 521 of the Acts of 1990, as amended by Chapter 329 of the Acts of 1991, and the regulations issued pursuant thereto, 102 CMR 12.00, and that the Bidder is either a qualified employer having fifty (50) or more full time employees and has established a dependent care assistance program, or offers its employees child care tuition assistance or on-site or near site subsidized child care placements, or is an exempt employer.

BIDDER'S NAME: inMOTION Wireless Inc.

AUTHORIZED SIGNATURE: [signature]

TITLE: President

DATE: 1/14/14

FORM M

Certification Regarding Companies Doing Business With Or In Northern Ireland

Pursuant to M.G.L. c.7, §§22C-F, the undersigned, being an authorized representative of the Bidder, hereby certifies under the pains and penalties of perjury that (check applicable item):

1. ✓ The Bidder does not employ ten or more employees in an office or other facility located in Northern Ireland.

2. ✓ The Bidder does employ ten or more employees in an office or other facility located in Northern Ireland and certifies that:

   (a) ✓ The Bidder does not discriminate in employment, compensation, or the terms, conditions and privileges of employment on account of religious or political belief; and

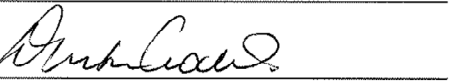
   (b) ✓ The Bidder promotes religious tolerance within the work place, and the eradication of any manifestations of religious and other illegal discrimination; and

   (c) ✓ The Bidder is not engaged in the manufacture, distribution or sale of firearms, munitions, including rubber or plastic bullets, tear gas, armored vehicles or military aircraft for sue or deployment in Northern Ireland.

3. ____ The Bidder does not certify to either 1. or 2. (a-c) above.

Signed under the pains and penalties of perjury this 14 day of January, 2014

BIDDER'S NAME: inMOTION Wireless Inc.

AUTHORIZED SIGNATURE: 

TITLE: President

DATE: 1/14/14

FORM N

Right-To-Know Law Certification

The undersigned hereby certifies that the Bidder, if awarded this Contract, will fully comply with the Massachusetts Right-to-Know Law, Chapter 470 of the Acts of 1983 (the "Act"), including:

1. Obtaining a Materials Safety Data Sheet, (MSDS) for all substances or mixtures of substances that appear on the Massachusetts Substance List that the Contractor or any of its subcontractors brings to or uses on the work site and will keep a copy of that MSDS on the work site of this Contract.

2. Labeling each container of a substance or mixture of substances on the Massachusetts Substance List as required in Section 7 of the Act.

3. Providing the same training and non-technical instruction that the Contractor is required to provide under Section 15 of the Act to all MBTA employees who are exposed to the substance or to the mixture of substances. Training shall include instruction of the nature and effects of any substance or mixture of substances listed on the Massachusetts Substance List, which the Offeror or any of his/her subcontractors brings to or uses on the worksite.

4. Providing to MBTA employees on the work site the same protective equipment that the Contractor and its subcontractors provide to its employees.

BIDDER'S NAME: inMOTION wireless Inc.

AUTHORIZED SIGNATURE: [signature]

TITLE: President

DATE: 1/14/14

Form I

Wi-Fi Technical Specifications

		Reference Tab	Reference Page
1	**The nature of the system**		
	Whether it is neutral host or specific carrier based.	N	NEUTRAL 74-75
	The technology platform to be used.	N/O/P	76-77/80-82/101-103
2	**The capacity of the system**		
	Number of coaches/boats to contain equipment.	A	5
	Bandwidth capacity on The coaches/boats and in the three stations containing equipment.	P	101-102
	Bandwidth capacity on the adjacent or nearby coaches not containing equipment.	P	102
	Will "Proportional Bandwidth" software be installed as part of the system?	P	102 (NONE)
	Content Limitation. MBTA policy prohibits certain type of advertisements. How Will these policies be implemented?	B	6-7
3	**Equipment and Installation**		
	Describe The specific equipment that Will be installed in each coach/boat and each of The three stations. Include technical specifications and installation requirements.	O/T	80-82/116-124
	A description of The software that Will be used to manage The system.	N/R	76-79/110-113
	How quickly coaches/boats and three stations can be equipped from The time they are made available for installation.	N	86
	Include A phasing plan and schedule	N	86
4	**Towers and/or other Support Facilities**		
	Identify proposed support facility build-out and/or any "holes" in the proposer's existing system which will require supplementary cell tower sites on MBTA property.	S	114-115

5	**Operations and Maintenance Plan**		
	Detail how the system is monitored, the frequencies of inspections, replacements, and improvements during the term, and how repairs and maintenance will be handled including response times.	N	77-78
	Detail the proposed customer service program for responding to users' complaints, suggestions, and comments.	R	110-113
	Other		
6	**Other technical information**		
	Proposer may wish to provide additional information on the WIFI system or other telecommunications information. Provide all technical specifications not provided in sections 1 – 5.		

SECTION D - INSURANCE POLICY



Business Insurance
Spectrum Proposal
Prepared for:

InMotion Wireless
655 W Grand Ave
Elmhurst, IL 60126

Proposed by:

ISU COVERALL INSURANCE GROUP
7620 W. 159th Street
Orland Park, IL 60462

Proposal Date : 01/07/2014, 12:53 PM
Proposal Created by:

Christina Sorrentino
630-908-4272
csorrentino@coverall-insure.com

Total Estimated Annual Premium for Spectrum: $

This document is a proposal of insurance for the applicant indicated above. It is not to be used as proof of coverage, unless bound by an authorized agent.

Important Messages:

Reference Number: 36SBA4843BQ - 004

1

Spectrum Proposal
with
Sentinel Insurance Company
A member company of The Hartford
1/10/2014 - 1/10/2015

Policy Level

Property Coverage	*Limits of Insurance*

Special Property Coverage Form automatically includes the following coverages at no additional charge:

Accounts Receivable Coverage Off Premises	$	25,000
Accounts Receivable Coverage On Premises	$	25,000
Appurtenant Structures - business personal property within appurtenant structure	$	5,000
Arson Reward	$	10,000
Business Income - Civil Authority - 30 Days - Awaiting period applies	$	Included
Business Income to Dependant Properties	$	5,000
Business Personal Property Seasonal Automatic Increase: 25%	$	Included
Data and Software	$	10,000
Definition of Premises: 1000 feet	$	Included
Extended Business Income - 30 consecutive days	$	Included
Fire Department Service Charge	$	25,000
Fire Extinguisher Recharge	$	Included
Forgery Coverage	$	5,000
Leasehold Improvements	$	25,000
Lease Assessment	$	2,500
Lock and Key Replacement	$	1,000
Money and Securities - Inside	$	10,000
Money and Securities - Outside	$	5,000
Newly Acquired or Constructed Property - Building - 180 Days Max	$	500,000
Newly Acquired or Constructed Property - Business Income 180 Days Max	$	50,000
Newly Acquired or Constructed Property - Business Personal Property - 180 Days Max	$	250,000
Ordinance or Law Coverage:		
• Tenants Improvements & Betterments Increased Cost of Construction	$	25,000
Outdoor Property - Aggregate	$	10,000
Outdoor Property - For any one tree, shrub or plant	$	1,000
Outdoor Signs - Attached to buildings - Per sign	$	5,000
Personal Effects	$	10,000
Property Off-Premises - Business Personal Property	$	2,500
Tenant's Glass	$	25,000
Valuable Papers Coverage Off Premises	$	25,000
Valuable Papers Coverage On Premises	$	25,000

Property Coverage	*Limits of Insurance*	*Premium*

The following Property coverages are applicable at all locations:

Property Deductible	$	2,500		
Automatic Equipment Breakdown Coverage which includes:	$	Included	$	Included
• Mechanical Breakdown	$	Included	$	Included
• Artificially Generated Electric Current	$	Included	$	Included
• Explosion of Steam Equipment	$	Included	$	Included
• Loss or damage to Steam Equipment	$	Included	$	Included
• Loss or damage to Water Heating Equipment	$	Included	$	Included
• Contamination by Hazardous Substance	$	50,000	$	Included
• Expediting Expenses	$	50,000	$	Included
Business Income And Extra Expense Specified Limit coverage -12 mos.	$	5,000,000	$	Included
Employee Dishonesty (Includes ERISA)	$	50,000	$	Included
Employee Dishonesty Deductible	$	250		
ERISA	$	Incl. In Empl. Dishonesty	$	Incl. In Empl. Dishonesty
Identity Recovery Coverage	$	15,000	$	Included

Liability Coverage	*Limits of Insurance*		*Premium*	
Business Liability:				
Broad Form Named Insured includes subsidiaries in which greater than 50% of voting stock is owned by the Named Insured	$	Included	$	Included
Defense Costs outside of the Limits of Insurance	$	Included	$	Included
Employees and Volunteers included as Insureds	$	Included	$	Included
Incidental Malpractice	$	Included	$	Included
Mental Anguish resulting from bodily injury, sickness or disease	$	Included	$	Included
Newly Acquired Organizations	$	180 days	$	Included
Non-Owned watercraft under 51 feet	$	Included	$	Included
Per Location General Aggregate - owned or rented premises	$	Included	$	Included
Personal and Advertising Liability includes coverage for discrimination or humiliation (other than employment-related)	$	Included	$	Included
Property Damage to borrowed equipment not being used to perform operations at the job site	$	Included	$	Included
Unintentional failure to disclose hazards	$	Included	$	Included
Additional Insured - Coverage is automatically extended to persons or organizations whose written contracts or permits with the insured require insurance to be provided	$	Included	$	Included
Each Occurrence	$	1,000,000		
General Aggregate	$	2,000,000	$	Included
Products/Completed Operations Aggregate	$	2,000,000	$	Included
Personal and Advertising Injury	$	1,000,000	$	Included
Damage to Premises Rented to You	$	1,000,000	$	Included
Medical Expenses	$	10,000	$	Included
Technology E & O (Claims Made) *				
Per Glitch	$	2,000,000	$	Included
Aggregate	$	2,000,000	$	Included
Retention	$	5,000	$	Included
Tech E & O Retroactive Date: 1/10/2014				
Technology Services Coverage - Limited	$	Included	$	Included

**As of the policy effective date, Technology E & O minimum premium is earned and retained (except FL, GA, MD, SD).*

Hired and Non-owned Auto	$ 1,000,000	$ Included
Employment Practices Liability (Claims Made)		
Per Claim	$ 10,000	$ Included
Aggregate	$ 10,000	$ Included
EPLI Deductible	$ 0	
EPLI Retroactive Date: 1/10/2014		

Umbrella Liability Coverages	*Limits of Insurance*	*Premium*
Per Occurrence	$ 6,000,000	$ Included
Aggregate	$ 6,000,000	$ Included
Self-Insured Retention	$ 10,000	
Policy Base Premium		$ Included
Terrorism	$ Included	$ Included

Location/Building Level

Location/Building Information

Location No./Building No.	:	001/001
Street Address	:	10 Park Plz
City, State and Zip Code	:	Boston, MA 02116-3933
Protection Class	:	01
Class Code	:	11041
Description	:	Internet Access & Service Provider
Construction	:	Masonry Non-Combustible
Year Built	:	1990
Sprinklered	:	No
Area	:	2,000
Annual Sales/Receipts	:	$5,000,000

Location/Building Coverage	*Limits of Insurance*	*Premium*
Business Personal Property	$ 4,000,000	$ Included
Fungi Limited Coverage	$ 50,000	$ Included
Fungi Limited Business Interruption	30 Days	$ Included

Stretch Endorsements		*Premium*
Technology and Software Service Providers Stretch	See Stretch Summary Attached	$ Included

The Limits of Insurance for the following Additional Coverages are in addition to any other limit of insurance provided under this policy.

Technology and Software Service Providers Summary

Coverage	*Limits of Insurance*
Accounts Receivable - On/Off-Premises	$ 25,000
Brands and Labels	Up to Business Personal Property Limit
Claim Expenses	$ 10,000
Computer Fraud	$ 5,000

Computers and Media	$ 50,000
Contract Penalty	$ 1,000
Debris Removal	$ 25,000
Employee Dishonesty (including ERISA)	$ 10,000
Fine Arts	$ 10,000
Forgery	$ 10,000
Laptop Computers - Worldwide Coverage	$ 5,000
Off-Premises Utility Services - Direct Damage	$ 10,000
Outdoor Signs	Full Value
Pairs or Sets	Up to Business Personal Property Limit
Personal Property of Others	$ 10,000
Property at Other Premises	$ 10,000
Salespersons' Samples	$ 1,000
Sewer and Drain Back Up	Included up to Covered Property Limits
Sump Overflow or Sump Pump Failure	$ 15,000
Temperature Change	$ 10,000
Tenant Building and Business Personal Property Coverage - Required by Lease	$ 20,000
Transit Property in the Care of Carriers for Hire	$ 15,000
Unauthorized Business Card Use	$ 2,500
Valuable Papers and Records - On/Off-Premises	$ 25,000

The Limits of Insurance for the following Coverage Extensions are a replacement of the Limit of Insurance provided under the Property Coverage Form.

Coverage	*Limits of Insurance*
Newly Acquired or Constructed Property - 180 Days	
Building	$ 1,000,000
Business Personal Property	$ 500,000
Business Income and Extra Expense	$ 500,000
Outdoor Property	$ 20,000 aggregate / $ 1,000 per item
Personal Effects	$ 25,000
Property Off-Premises	$ 25,000

The following changes apply only if Business Income and Extra Expense are covered under this policy. The Limits of Insurance for the following Business Income and Extra Expense Coverages are in addition to any other Limit of Insurance provided under this policy:

Coverage	*Limits of Insurance*
Business Income Extension for Off-Premises Utility Services	$ 25,000
Business Income Extension for Web Sites	$ 50,000 / 7 days
Business Income from Dependent Properties	$ 25,000
Expediting Expenses	$ 10,000

The following Limit of Insurance for the following Business Income Coverage is a replacement of the Limit of Insurance provided under the Property Coverage Form.

Coverage	*Limits of Insurance*
Extended Business Income	60 Days

The following changes apply to Loss Payment Conditions:

Coverage	*Limits of Insurance*
Valuation Changes	
Commodity Stock	Included

"Finished Stock"	Included
Mercantile Stock - Sold	Included

Your Spectrum policy contains classes and coverages that may be subject to an annual audit. Your quoted premium may change based on the actual annual audit records provided to us.

Why The Hartford

As a small business owner, you want to feel confident that you have a business insurance program that's "just right" for your business. With The Hartford's Spectrum® Business Owner's Policy, you're getting among the broadest property and liability insurance available -- including built-in, value-added coverages at no additional cost. But that's not all. The Hartford offers …

Flexibility to tailor a program that meets your unique needs today and as your business evolves;
Coverage options, many of which are available separately or in cost-effective packages - giving you the best value for your insurance dollar; and
Innovative products and services that help protect your business from new and emerging threats. Consider Data Breach coverage, which helps protect you from damages due to unauthorized disclosure of your customers' and/or employees' personal information.

The Hartford Delivers an Outstanding Service Experience
The Hartford's Small Commercial Call Centers have been recognized by J.D. Power and Associates for providing "An Outstanding Customer Service Experience". We realize business owners are pressed for time, so The Hartford is committed to making their interactions as efficient as possible. Our easy processes and service solutions save time and let you focus on what's important - your business.

For J.D. Power and Associates 2012 Call Center Certification Program℠ information, visit jdpower.com

Help protect your small business with an insurance program that's "just right". Choose The Hartford.

Buying business insurance can be intimidating. The Hartford is here to help. A site dedicated to small business owners, www.thehartford.com/business/product/bop provides you with an overview of what a business owner's policy is, coverage details, and the services we offer.

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We will provide the railroad liability policy as soon as contract has been issued and tasks has been negotiated and fully defined.

SECTION E – TELECOM INTERNET SERVICE LICENSE & GOOD STANDING CERTIFICATE

inMotion's SBO for the Department of Telecommunications and Cable in the State of Massachusetts

Clark, Sara (DTC) (sara.clark@state.ma.us) Add contact 12/5/2013 8:02

To: dlalos@inmotionwireless.com;

Mr. Lalos:

The Department of Telecommunications and Cable in the State of Massachusetts received inMotion Wireless, Inc.'s statement of business ("SBO") yesterday. The SBO stated that the company would be providing Wi-fi hot spots to MBTA commuters. Please be aware that the Department does NOT regulate the Internet. The Department only regulates landline phones and cable television. Since the Department does not regulate the Internet, inMotion Wireless does not need to submit an SBO to us.

I would advise you to check with the Massachusetts Secretary of the State's office, as all businesses operating in Massachusetts do need to register through them.

Also, please be aware that I left you a voicemail with this same information yesterday at the phone number listed (630-474-6699).

Thank you.

Sara Clark
Administrative Unit
Massachusetts Dept. of Telecommunications and Cable
1000 Washington Street, Ste. 820
Boston, MA 02118-6500
(Phone) 617-305-3580
(Fax) 617-988-8267
www.mass.gov/dtc

Delaware.gov | Text Only Governor | General Assembly | Courts | Elected Officials | State Agencies



Department of State: Division of Corporations

Entity Details

File Number:	5461707	Incorporation Date / Formation Date:	01/08/2014 (mm/dd/yyyy)
Entity Name:	INMOTION WIRELESS INC.		
Entity Kind:	CORPORATION	Entity Type:	GENERAL
Residency:	DOMESTIC	State:	DE
Status:	GOOD STANDING	Status Date:	01/08/2014

REGISTERED AGENT INFORMATION

Name:	DELAWARE BUSINESS INCORPORATORS, INC.		
Address:	3422 OLD CAPITOL TRL STE 700		
City:	WILMINGTON	County:	NEW CASTLE
State:	DE	Postal Code:	19808
Phone:	(302)996-5819		

SECTION F – SYSTEM OFFERING

Delivering a World Class Travel Experience

inMOTION understands that MBTA's Vision to become the preferred mode of travel for Boston and its suburbs will require commitments to:

- Provide passengers with a world-class travel experience
- Act as a major catalyst for redevelopment and economic activity in communities along its route
- Play a key role in mobility management along the Massachusetts region as a whole

As part of its proposal to enhance the customer experience, inMOTION is pleased to highlight an innovative digital offering that could help MBTA deliver a dedicated world-class travel experience to its riders. Our offering can improve the quality of the commuting experience for MBTA's riders through highly-desired passenger amenities, real-time information availability, and enhancements to customer service. More importantly, this same offering can also provide MBTA an opportunity to expand its funding mechanisms to include advertising and subscription revenue streams in their trains, ferry-boats and Stations.

Key Elements of the Innovative Digital Offering

Highly-Desired Passenger Amenities - Live News / Entertainment / Sports Programming

inMOTION would provide live television programming accessible via laptop computers, tablets, or smartphones utilizing a patented Wi-Fi broadcast technique available only for those using the inMOTION Service application.

Uninterrupted Broadband Internet Access / Signal Strength

A common problem in commuter railroad travel is the consistent interruption of wireless internet service while transitioning between cellular station coverage. Our solution includes a Private Network that delivers 50Mbps per carrier of Network Throughput allowing for uninterrupted wireless internet access on Mobile devices delivering commuters an In-Home / Office experience while on the train. Our innovative system provides speeds much faster than conventional cellular system dependant solutions.

Real-Time Information Availability (optional) - Passenger Alerts / Notifications

In addition to real-time monitoring of train arrivals and departures, our solution allows for direct communication with transit riders to inform them of any irregular events. With the help of MBTA, we can identify the appropriate severity levels of information for riders and develop unique treatments for each to ensure that riders can visually distinguish amongst the levels.

Through an established user or "MyMBTA" account, riders can select "*My*Trains" and set up alert preferences to receive notifications of service delays or schedule adjustments for those specific trains simply by broadcasting the specific alert to their personal email or SMS accounts.

*Other Customer Service Enhancements (optional) - "My*MBTA*"*

Our solution offers riders the ability to register for and create a "*My*MBTA" user account through which they can:

- Edit account settings,

- Set up alerts,
- Select My Next Trains,
- Set notification preferences,
- View order history,
- Manage personal and billing info, and
- Manage recurring ticket orders

While this feature provides ease of use for MBTA riders, it also serves as a mechanism for learning more about MBTA's ridership that can be used to help MBTA engage with and build stronger relationships with its customer base.



In addition, MBTA could extend its current capabilities in the following ways:

Promotions and communications can be sent to registered "*My*MBTA" riders via their preferred notification preference. Riders can also subscribe to receive MBTA information such as service advisories, MBTA News, Schedule Changes or even Project Updates delivered directly to their desktop or mobile device according to their desired preference.

MBTA can engage with riders via social media such as Facebook, Twitter, Google Buzz and others.

Offer a MBTA mobile site to provide timely and location-aware information on schedules, station locations, and system alerts. Expand safety and security features to include on-site video surveillance systems, automatic alert and pre-emptive two-way uninterrupted communication capabilities.

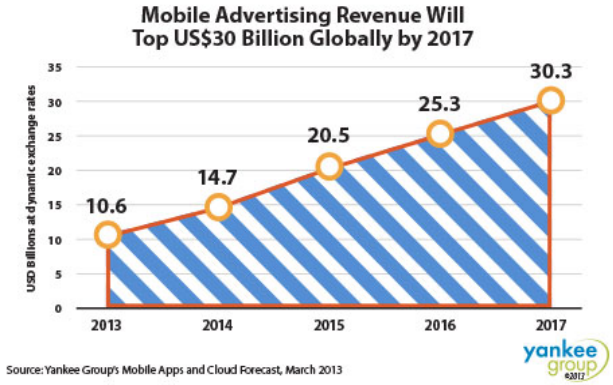
Revenue Opportunity

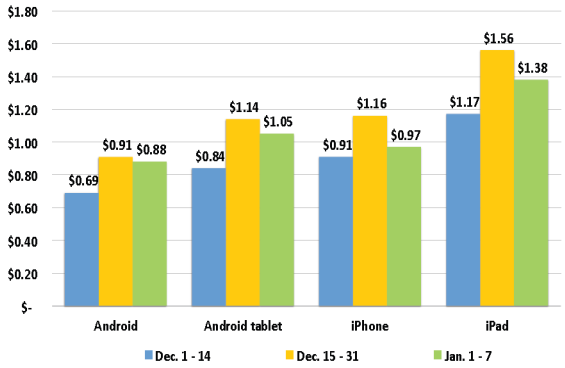
Advertising Revenue

Digital advertising is a form of promotion that uses the Internet for the expressed purpose of delivering marketing messages to attract customers. Examples of online advertising include contextual ads on search engine results pages, banner ads, rich media ads, social network advertising, online classified advertising, advertising networks and e-mail marketing.

Deloitte reports that in 2013, ad revenue is likely to reach $2.50 per smart-phone, and $12.60 per tablet. The differences by type of advertising reveal a wider gulf. Display revenues, which include in-app ads, are forecast at about $7 per tablet, considerably higher than a forecast $0.60 per smart-phone. Differences between search revenue per device are less marked but still significant – at about $1.70 per smart-phone and about $5.60 per tablet.

In 2014, growth in both categories should be strong, with smart-phone advertising rising between 30 to 35 percent to about $6.5 billion, and tablet advertising by 50 to 555 percent for tablets to about $5.2 billion. Revenues will be generated from a forecast base of some 2.3 billion smart-phones in 2014 (approximately a 20 percent increase from 2013) and 370 million tablets, a 40 percent rise from 2013. Advertising revenues per smart-phone in 2014 are forecast at about $2.80 and about $13.90 per tablet.





A major benefit of digital advertising, particularly rich media ads, is the immediate publishing of information and content that is not limited by geography or time. The second major benefit is the efficiency of advertiser's investment. Online advertising allows for the customization of rich-media advertisements – personalized content to specific groups of riders.

MBTA has a unique opportunity because it is an important part of its riders' lives. Not only do they ride the train but they want and need information from MBTA like schedules, service updates, promotions and ticketing. By providing this information along with valuable and targeted marketing, MBTA can become part of its riders' lives both on and off the train while improving the MBTA experience. In addition,

- MBTA has a desirable and quantifiable demographic
- MBTA provides real value to its riders
- MBTA has a captive audience
- MBTA can offer advertisers a full spectrum of opportunities that can work in concert
- Website
- Mobile

- SMS
- Email
- In Railcar
- On Boat
- In Stations
- On Platforms
- *In-Car, Platform, Station Monitors*

Advertising programs can be designed to communicate advertising messages from strategically-placed In Car / Platform / Station Monitors for maximum penetration. The ability to provide daily MBTA Commuters LIVE Real Time Programming in rail cars allows advertisers to aggressively brand and position their products and services with an unprecedented market reach.

Other

Using our solution, MBTA has the ability to leverage cross-channel advertising opportunities to increase the value of their advertising inventory (i.e. increase CPM):

- Email – Include ads with your emails
- SMS – Include ads on SMS alerts
- Web – Match Email and SMS ads with Web ads
- In-car, Station, Platform – Match Email, SMS and Web ads with in-car, station and platform ads
- Print – Tie all promotions together with inserts to print communications

Subscription Revenue

We could incorporate roaming agreements with all cellular, ISP, and Cable providers in the region to accommodate and open our Railroad specific network to other marketing avenues and could offer services to all passengers on their own accounts as well. Our goal is to maximize revenue without "holding hostage" passengers that do not want to participate to "specific brands" and "bundled" fees.

Our rates could include yearly, monthly, weekly and daily access charges.

Digital Offering

This innovative digital offering as described above is enabled by the following elements to ensure maximum value for MBTA:

- Digital Marketing capabilities
- Web / mobile platform
- Wireless broadband network
- Network Operations Center available 24x7x365

SECTION G - THE COMPANY

inMOTION Wireless Inc.
655 W. Grand Avenue, Suite 300
Elmhurst, IL. 60126
www.inmotionwireless.com
Phone: 630.474.6699

inMOTION has been recently incorporated in the State of Delaware. inMOTION has absorbed in its arsenal the RAILband Group and metroLINK Technologies and owns all previously developed and patented intellectual property to railroad and other mobile applications. The inMOTION team has installed or supervised over 6,000 avionics platforms and has deployed and operated nationwide mobile networks comprising of hundreds of telecommunication stations.

Airfone

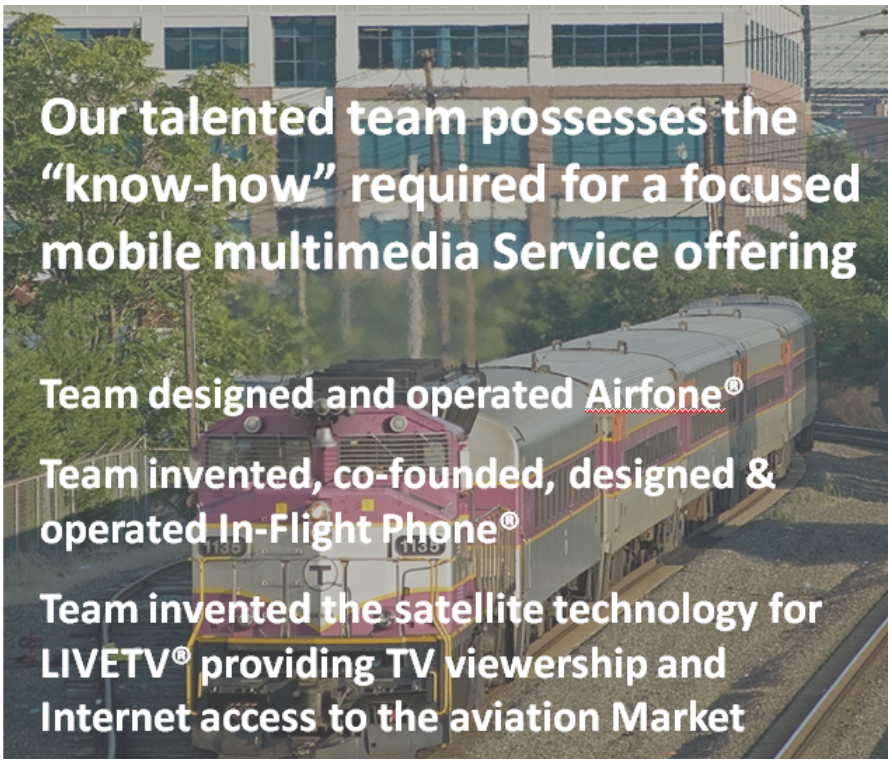


IN-FLIGHT PHONE CORPORATION



LIVETV™





MANAGEMENT TEAM

DIMITRIOS LALOS, PRESIDENT and CEO
Mr. Lalos has pioneered and lead the planning and implementation of cellular communications technology systems like AIRFONE, IN-FLIGHT PHONE, and broadcast systems like SkyRADIO and LiveTV (live TV broadcasts to aircraft) currently on JetBlue and other airlines. Mr. Lalos was the co-founder of In-Flight Phone Corporation. He has authored the dynamic Air-to-Ground (ATG) sharing plan that the FCC adopted (FCC 90-140) as the mode of operation for ATG in an effort to introduce the first cellular based interactive multimedia network, considered as the predecessor to the cellular smart-phone applications. He also successful tenured with Nextwave Telecom, Marconi, Celletra and the Goeken Group where he managed large implementations of complex operations and marketing efforts. Mr. Lalos has proven over the past 29 years to be a cutting edge innovator leading to the introduction of

visionary systems and applications. He holds a Master of Science and a Bachelors of Science in Electrical Engineering from the University of Illinois, he has authored multiple wireless patents and he is listed on National Register's Who's Who in Executives & Professionals. He is currently a wireless and surveillance technology advisor to the Office of Emergency Management Center (OEMC) in Chicago and a partner at Xtivity Solutions, a Chicago based premier Wireless Services Company.

CARL STEEN, VICE PRESIDENT MARKETING

Dedicated, hands-on, Marketing Leader with extensive background in directing Product Management, Marketing, Corporate Strategy and Sales to successful ventures in highly competitive National and Global markets. Has demonstrated and possesses a broad range of functional expertise across sales/marketing, business development, engineering, operations, and manufacturing disciplines with a proven track record of innovation within product, services and business models. Carl has developed Android based smartphones for US, Japan and European markets. Managed the software and hardware platforms of multiple product families including the DROID RAZR, RAZR, RAZR M, RAZR I and DROID ULTRA products representing nearly 10M units sold through global carriers and had successful tenures with Google, US Cellular, Westell, Focal Communications, IPVERSE, US Robotics and Motorola. Carl received his MBA in International Business/Marketing and his Bachelors of Science in Electrical Engineering (BSEE) from the Illinois Institute of Technology. He is the recipient of the InfoVision Award – Broadband World Forum – Paris 2006, IEC award "Best Broadband Appliance" and the Most Innovative Product Design on the Verizon One program.

YANNI VALSAMAS, CHIEF FINANCIAL OFFICER

Mr. Valsamas is a dedicated, hands-on leader with over fifteen years of financial management experience. His background includes general accounting, strategic planning, Cash Flow analysis and asset management. He has served as the Chief Financial Officer for six companies, employing over 200 people, with the Tomaras Investments Group and was responsible for a budget of over $25M. He has implemented successful strategies pertaining not only to day-to-day operations but also long-term goals for the future planning of the investment firm. His financial knowledge and experience spans from Real Estate Investments to the Food and Beverage Industry. He was also the team leader for the establishment of a venture capital firm in Greece and serves as the Executive Director of the PanHellenic Scholarship Foundation, a national institution that provides scholarships to undergraduate students with financial need. Mr. Valsamas earned his BS in Business Administration in 1994, followed with an MBA in Finance in 1996, both from Roosevelt University. His combined financial management and international business experience provides Mr. Valsamas the ability to understand both foreign and domestic markets, along with complex financial analysis and planning.

GEORGE PITSOULAKIS, VICE PRESIDENT ENGINEERING

Strong team oriented entrepreneurial Technology executive with proven track record of success in launching innovative wireless, broadband and mobile communications products and services to market. George possesses a unique proven leadership experience in leading cross functional and direct teams in R&D, manufacturing and service provider domains, with extensive experience with customer and product life cycle management across multiple product areas and nationwide product launches. Has developed and launched VersaLink Wi-Fi ADSL gateway shipping over 2.5M units to multiple customers, managed over $190M annual revenue for ADSL CPE Business. Strong understanding of product development lifecycle and methodology with a keen business sense and demonstrated experience in R&D, engineering, advanced technology planning, marketing, OEM/ODM management, business case development and project management. Extensive international product development and launch

experience leading both European sales/R&D and Asian OEM/ODM product teams. Vast experience with mobile communications: LTE, GSM, CDMA/1X/EVDO, xDSL CPE, IP, IMS, Wi-Fi, VoIP, MPLS, VPN's, Linux, VxWorks and XML. George had successful tenures with US Cellular, Westell, Verizon, Northrop Grumman, GTE and Honeywell. He holds a MBA and BSEE from the Illinois Institute of Technology and he is the recipient of 2 patents and numerous publications. He was the co-chair of the DSLForum, DSLHome-tech working group (2003-2005) and a Member of IEEE.

TIM BLAIR, VICE PRESIDENT OPERATIONS

Tim has established a record of career achievement encompassing innovative wireless and wire-line telephony, network and communications site development, maintenance, engineering, operations, contracts and tower management. With thirty years of communications industry participation, Tim has proved an effective leader across varied disciplines including: Satellite Communication (earth terminal and space craft), air to ground telephony, cellular (RF engineering and network performance as well as site development), microwave design engineering and implementation for point to point and back haul. He has successfully managed organizations and projects at the market, regional and national levels for Alltel, Lockheed-Martin, the United States Air Force, Teligent, NextWave, LCC, Black and Veatch, MediaFlo, Cricket, Clearwire and Nexius. Having just completed a 205 hop microwave deployment ahead of schedule in Puerto Rico and the Virgin Islands for Sprint's 4G LTE rollout, Tim also manages a tower leasing collocation business for Norfolk Southern Railroad.

DAN TURNPAUGH, VICE PRESIDENT BUSINESS DEVELOPMENT

Wireless Telecommunications Executive with a focus on Critical Infrastructure for deployment of wireless carrier networks; mergers and acquisitions; and wireless infrastructure portfolio diligence, appraisal, and monetization. Mr. Turnpaugh has led in the past GTP's efforts to develop partnerships with utilities and oil & gas companies that effectively leverage their infrastructure (including communication towers, real estate, rooftops, transmission towers and utility joint use poles) for wireless communications use (including Macro sites and Small Cell) through sale-leaseback transactions and management agreements, leasing programs to the utility and oil & gas industries and the relationship with Norfolk Southern Railway Company ("NS") encompassing new tower development along 18,000 miles of NS Right-of-Way, collocation of new antenna facilities on NS's portfolio of 422 communication towers and operations of GTP's portfolio of towers located on NS-controlled real estate. He was the founder of DukeNet Communication Services, LLC, a non-regulated, wholly-owned Duke Energy Corporation ("Duke") subsidiary that owned, operated and maintained communication tower sites in the eight state region encompassing Duke's regulated utility service territories in the Midwest and Southeast. At Duke he scaled company from start up to one of the ten largest independent tower companies in the United States in just over one year through a combination of new tower site development and acquisition, developed significant M&A backlog of nearly 600 additional tower sites and sold company to Global Tower Partners in December 2009. Previously he held the position of Managing Director with Lattice Communications one of the five largest privately-held tower companies in the United States.

SECTION H - COMPANY PROFILE

inMOTION has unparalleled experience in the design, installation, deployment and operations of complex multimedia systems involving wireless transmission and color LCD screens on airline seatbacks. inMOTION's founder and executive team have deployed complex avionics grade systems for the airline industry in the past, installing multiple aircraft on overnight installations and have perfected installation processes with pre-fabricated, snap-on techniques. The team has installed thousands of aircraft for Airfone, In-Flight Phone and USA Today's skyRadio. We are also the original designers of Jet-Blue's live TV system that is currently installed in most aircraft fleets.

inMOTION, is a high-speed broadband "private network" wireless provider designing and serving exclusive networks for the commuter rail industry. inMOTION was specifically formed to respond to the aggressive demand by railroad commuters for real-time connections. Government funded studies indicate that over 84% of commuter rail travelers commute with a laptop or PDA and greatly desire the need have real-time uninterrupted wireless connections in their daily commute. inMOTION has developed an innovative BROADBAND wireless solution, specifically architected to address critical technical needs for worldwide commuter rail systems.

inMOTION currently has 5 patents pending for its Broadband technology and applications and other patents are currently in the draft stages. Wireless systems designed by other service providers incorporate satellite and land based systems, resulting in very slow and inadequate downloads along with frustrating interrupted service. inMOTION's innovative solution provides true Broadband access in response to growing demands of commuter travelers and offers live broadcasts to commuters.

inMOTION's impressive roster of directors and management have both national and international experience in Technology Architecture, System Development, Integration, Deployment of complex networks, Mass Transit Systems and Operations, Security, Crisis Management, Business Development, Marketing, Advertising and Communications.

inMOTION's Team is the proven leader in delivering truly ubiquitous, metro-scale dedicated private network systems. Our team began developing private communications network technologies in 1999 with the goal of delivering the fastest, lowest cost and simplest wireless broadband access solutions. Our software is the first and only metroscale optimized, radio-agnostic, wireless routing protocol, which does with routing software what other approaches attempt to do with expensive hardware. inMOTION's Wireless network architecture is based upon the integration of two distinct technologies relying on the IEEE 802.16 LTE compatible, for rail-side networking, and 802.11 (Wi-Fi), for in rail car networking, standards that have achieved widespread adoption worldwide. Support led by Intel and Microsoft and others have made nearly every new mobile computing product Wi-Fi enabled. Wi-Fi is a well-established industry standard, and does not require expensive or proprietary add-in cards to connect to the wireless network. Over 500 million Wi-Fi-enabled clients, including laptops and PDAs, have been shipped to date, making it feasible for MBTA to implement a multi-use wireless broadband network offering with minimal complexity and associated costs. inMOTION Team's products transform such technologies into a scalable, reliable metro-scale infrastructure by layering intelligence on top of Wi-Fi. inMOTION rail-side networks exclusively address the railroad needs without having to share bandwidth or throughput with non-rail mobile or stationary users in the vicinity of the rail line. Our in railcar routers self-organize and, using wireless backhaul, forward data to each other along the optimal path to a wireless network connection via the dedicated network. The inMOTION solution creates a truly wireless network, free

from the requirement of per node wired connectivity associated with Wi-Fi hot spot deployments using access points. Our solution enables larger coverage areas, decreased installation and operational costs. The key intelligence is provided by the Operating System (OS), embedded in each router, of which the software is a key component.

Our advanced private network solutions deploy a Software-Defined Radio system, or SDR radio communication system which uses general purpose components and robust modem architecture to upgrade its network to any future radio technology. Moreover, by using general purpose components, the equipment used has large-scale cost benefits as well as various chipset suppliers which reduces costs and enables product lifecycle availability. Our end-to-end LTE/4G solution provides a common platform for private network deployment, based on a future-proof proprietary SDR platform to maximize the reuse of installed infrastructures. Thus, upgrading from 50 MB per carrier to higher speeds would occur easily.

inMOTION's solution is a combination of application-enabling bandwidth and carrier-class coverage, providing MBTA not only access to the Internet and live video broadcasts but also access to critical information previously not available in the field. The proposed network could also support a wide range of public safety applications including:

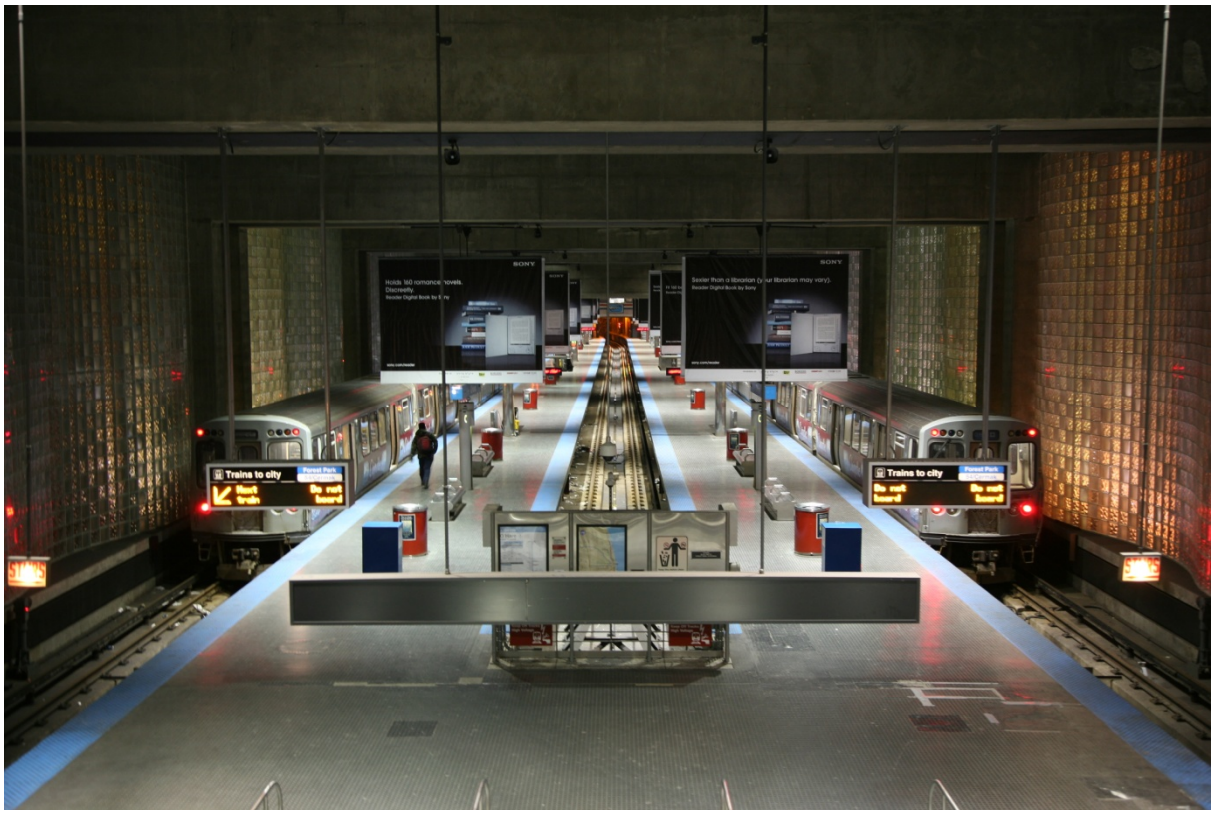
- Computer-aided dispatch
- Messaging
- Vehicle-to-vehicle messaging
- E-mail and web access
- Data access
- Pre-emptive action over the system by the MBTA in case of emergency
- Records management system access including in-field report writing, filing and retrieval
- In-field line-ups
- High-resolution mug shot, driver's license photo and fingerprint download
- Video
- Video surveillance
- Wireless surveillance cameras in hard-to-wire locations in government facilities, schools and commercial buildings such as banks.
- In-field access to surveillance video
- Geographic information
- Real-time, in-field GPS location
- In-field access to GIS information and modeling
- Maps (2D and 3D views)
- Built environment information
- Fire/emergency response pre-plans
- Environmental
- Other
- In-field software updates

inMOTION is a wireless systems provider firm and industry leader in outdoor & indoor wireless technologies. While most wireless companies boast a few successful installations, our team has performed hundreds of installations, spanning all application areas, throughout the World. Our team

knows wireless better than anyone in the industry and has a formal design, implementation and support process to back the claim.
Among other achievements, our team has realized the following key qualifications:

- Hundreds of outdoor wireless implementations, spanning all applications
- Access to more than 100 certified wireless engineers
- Formal, nationwide support program
- 24/7 Wireless Specialized Network Operations Center program
- Dedicated Indoor and Outdoor Testing Lab
- Design & Procurement

inMOTION's core competencies include systems operations experience, implementing high speed, carrier-class, wireless data and voice-over-IP networks. Project teams travel across the country to implement large scale wireless projects and have local support teams throughout the country. Our engineering and support teams are certified on Cisco, Tropos, Alvarion, Airspan, Motorola, Ruckus, Radwin, Ciena, Nera, Ceragon, and several other manufacturers. We have a proven track record, exceptional engineering operations talent, and a reputation for unparalleled success have positioned us as a real leader. inMOTION has amassed a tremendous knowledgebase by working on wireless projects for many applications. We are currently the technical lead in the Walsh/Divane team implementing cellular coverage in tunnels for the Chicago Transit Authority (CTA) and we maintain existing surveillance installations with Wendella Boats and Water Taxi's in Chicago.




WENDELLA


LINNEA
CHICAGO WATERTAXI


LINNEA

CUSTOMERS AND INSTALLATIONS

Customer	Timeframe	Installations	Base Stations/Location	Project Description
American Airlines	1984-1989	650	120/Nationwide/Canada	Air-to-Ground Telephone Service
United Airlines	1984-1989	600	120/Nationwide/Canada	Air-to-Ground Telephone Service
Delta Airlines	1984-1989	525	120/Nationwide/Canada	Air-to-Ground Telephone Service
Northwest Airlines	1984-1989	310	120/Nationwide/Canada	Air-to-Ground Telephone Service
Eastern Airlines	1984-1989	220	120/Nationwide/Canada	Air-to-Ground Telephone Service
TWA	1984-1989	125	120/Nationwide/Canada	Air-to-Ground Telephone Service
America West	1991-1995	130	160/Nationwide/Canada/Mexico	Air-to-Ground Telephone Service
US Air	1991-1995	425	160/Nationwide/Canada/Mexico	Air-to-Ground Telephone Service
Continental Airlines	1991-1995	350	160/Nationwide/Canada/Mexico	Air-to-Ground Telephone Service
Pan-Am	1984-1989	85	120/Nationwide/Canada	Air-to-Ground Telephone Service
Trump Shuttle	1984-1989	15	120/Nationwide/Canada	Air-to-Ground Telephone Service
United Airlines	1991-1993	350	satellite/Nationwide	Broadcast satellite Audio
Northwest Airlines	1991-1993	220	satellite/Nationwide	Broadcast satellite Audio
Delta Airlines	1991-1993	365	satellite/Nationwide	Broadcast satellite Audio
Amtrak	1984-1989	65	0/East Coast	cellular Telephone
Metra	1984-1989	55	0/Illinois	cellular Telephone
Nextwave Telecom	1996-1999	150+	95/NY/MA/FL/OH/CA/TX	Cellular Telephone
Verizon	2001-2002	15	0/California	cellular Telephone
Sprint	2001-2002	10	0/Midwest	cellular Telephone
AT&T	2002-2003	65	65/Caribbean	cellular Telephone
Wendella Boats	2012	15	0/Chicago River/Lake	surveillance
City of Bolingbrook	2012-	30	20/Illinois	telecommunications/First Responder network
City of Prospect Heights	2012-	25	15/Illinois	telecommunications/First Responder network
Chicago Housing Authority	2011-2012	250	0/Illinois	telecommunications/First Responder network

Our Team's notable experience:

Airfone, GTE, In-Flight Phone, MCI, Verizon Wireless, Nextwave Telecom, Motorola, Westel, US Robotics, US Cellular, LiveTV, Google, Nexius, GPT.

SECTION I - REFERENCES

Name: Village of Bolingbrook
Address: 375 West Briarcliff Rd, Bolingbrook, IL
Telephone: (630) 200-9946
Contact: Deputy Chief Trinidad Garza

Name: City of Prospect Heights
Address: 8 N Elmhurst Rd, Prospect Heights, IL
Telephone: (847) 398-6070
Contact: Anne Marrin, City Administrator

Name: ARCADIS U.S., Inc.
Address: 120 S LaSalle Street, Suite 1350, Chicago, IL 60603
Phone: (312) 917-1067
Contact: Jack Hartman, Executive VP

Name: Walsh Construction
Address: 929 W Adams, Chicago, IL 60607
Telephone: 312.492.1593
Contact: Ava Muench, Project Manager

Name: Wendella Boats
Address: 405 N Wabash, Chicago, IL
Telephone: (312) 337-1446
Contact: Craig Wenokur, Executive VP and GM

SECTION J – PRIMARY BANKER

Primary Contact: Benjamin S. Carson, Jr., Partner & Co-Founder
Interprise Partners
8160 Maple Lawn Blvd
Suite 200
Fulton, MD 20759
Phone: 202-570-8890

Interprise Partners, LLC is a middle market merchant bank dedicated to providing capital services and solutions for corporate and real estate endeavors. Focused on maximizing capital impact and ensuring a smooth process, Interprise has assisted companies undergoing capitalization restructuring to fund growth and expansion, special situations, project financing, recapitalization, and capital expenditures. Consulting and advisory services are provided by Interprise Advisors, while direct investments are made by Interprise Capital.

Dedicated to growth and value creation, Interprise contributes a strong senior advisory board with impactful relationships for companies in the network. The partnership also has the ability to deliver a large suite of bundled services inside and outside of the immediate network. This central services solution has created an environment of continued investment and forward thinking, allowing CEOs to focus on driving growth rather than back-office and vendor management challenges.

Interprise Capital focuses on platform company sectors based on market research and trend analysis. Interprise adds value to its platform companies by facilitating business development and M&A. Each platform serves as a base for acquiring strategic add-on companies. This strategy provides our CEOs with the added infrastructure, technology, and scale to increase the status of the entire network.

Interprise Capital is actively investing in public and private sector companies in the Mid-Atlantic region.

Industry:

- Business Services
- IT
- Healthcare
- Real Estate Services

Management Team:

- Experienced, motivated, and capable of delivering continued profit/growth, and/or looking to exit

Investment Goals:

- Minority or control investment in Companies within Industry Focus

Company Profile:

- *Growth*: Business with long term positive trends of sustainable growth and competitive advantages.
- *Exit*: Companies looking to minimize taxable consequences resulting from the sale of some or all of their equity.
- *Recapitalization*: Companies seeking investment to reorganize management or infrastructure.

Investment Target:

- $ 2,000,000-20,000,000

Ideal Enterprise Value:

- $ 5-50 Million for Platforms
- $ 1-10 Million for Add-Ons

Company Revenue:

- $ 5-50 Million for Platforms
- $ 1-20 Million for Add-Ons

Geography:

- Primary: East Coast
- Secondary: National

Services

The Interprise Partnership allows companies to benefit from the resources and expertise of seasoned investment professionals. The model is driven by the concept of the strategic partner, which leverages a centralized team and infrastructure to increase revenue and margins with superior access to governance and services. Additional service capabilities are incorporated into the network with each new partnership, further building out Interprise's service capabilities. Any company providing services in-network receive some economic benefit from the delivery of those services.

Utilizing extensive banking and finance resources, Interprise Advisors assists on equity and debt financing, including convertible debt, mezzanine or other subordinate debt, working capital loans, bridge financing, A/R financing, contract financing, credit based facilities, asset backed loans, trade financing, and other forms of debt or equity investment capital.

When working with companies to identify potential sources of financing, Interprise Advisors has developed strategic relationships with proven professionals to optimize deal structure, tax structure, legal service, alternative/traditional financing methods, and strategic financial guidance. Our goal is to structure transactions that result in the greatest possible upside for all parties while maintaining a steady transaction pace. Maximizing returns for our partners, investors, and clients is the driving force behind our success. Our approach is to create value through innovative solutions and proven best practices.

SECTION K – FINANCIAL BUSINESS PARTNER

Primary Contact: Darnell Dailey, Managing Partner
1300 Spring Street, 4th floor
Silver Spring, MD 20910
Phone 301.650.2250
Direct 301.650.2254
Cell 301.219.0798

TG Quantum has the ability to fund a wide variety of public works projects. We particularly look to fund projects that align with the five complementing interests of the TGQ Formula. These interests are:

1. *Community Redevelopment*
2. *Energy Conservation*
3. *Integrated Renewable Technology Developers & Suppliers*
4. *Engineering & Construction Companies*
5. *Financial Investment Institutions*

Some of the Projects We Like to Fund

Transit Oriented Development

TGQ funds transit-oriented development projects that meet the technical requirements of both the transit system and the governing authorities, and that have appropriate program/market strategies. In addition, the physical designs of the development must support the public realm.

Public Private Ventures

A Public Private Venture (PPV) is a mutually beneficial partnership between a public agency and a private company. TGQ specializes in brokering these types of arrangements.

Master Plan Projects

TG Quantum is interested in funding master plan projects that focus on building the communities of tomorrow.

Traditional Neighborhoods

TGQ funds traditional neighborhood projects that have well defined public spaces, pedestrian friendly streetscapes, and buildings that have been designed to support the design of these spaces and streets.

The TGQ Advantage

There are five main advantages that TG Quantum, LLC offers over the traditional methods of funding public sector building projects. They are:

1. Economic Advantages:

- Investors own the infrastructure

- Costs of maintenance and upkeep is paid by Owners
- Upgrades and improvements are paid for by Owners

2. Environmental Advantages:

"Green Design" cuts power usage by 40-60% which contributes to:

- The reduction of the project's carbon footprint and energy bill
- Excess power can be sold back to the local power/utility company

3. Educational Advantages:

- Local workforce retrained in installing and maintaining green technology
- Creates "Green Collar Jobs"

4. Employment Advantages:

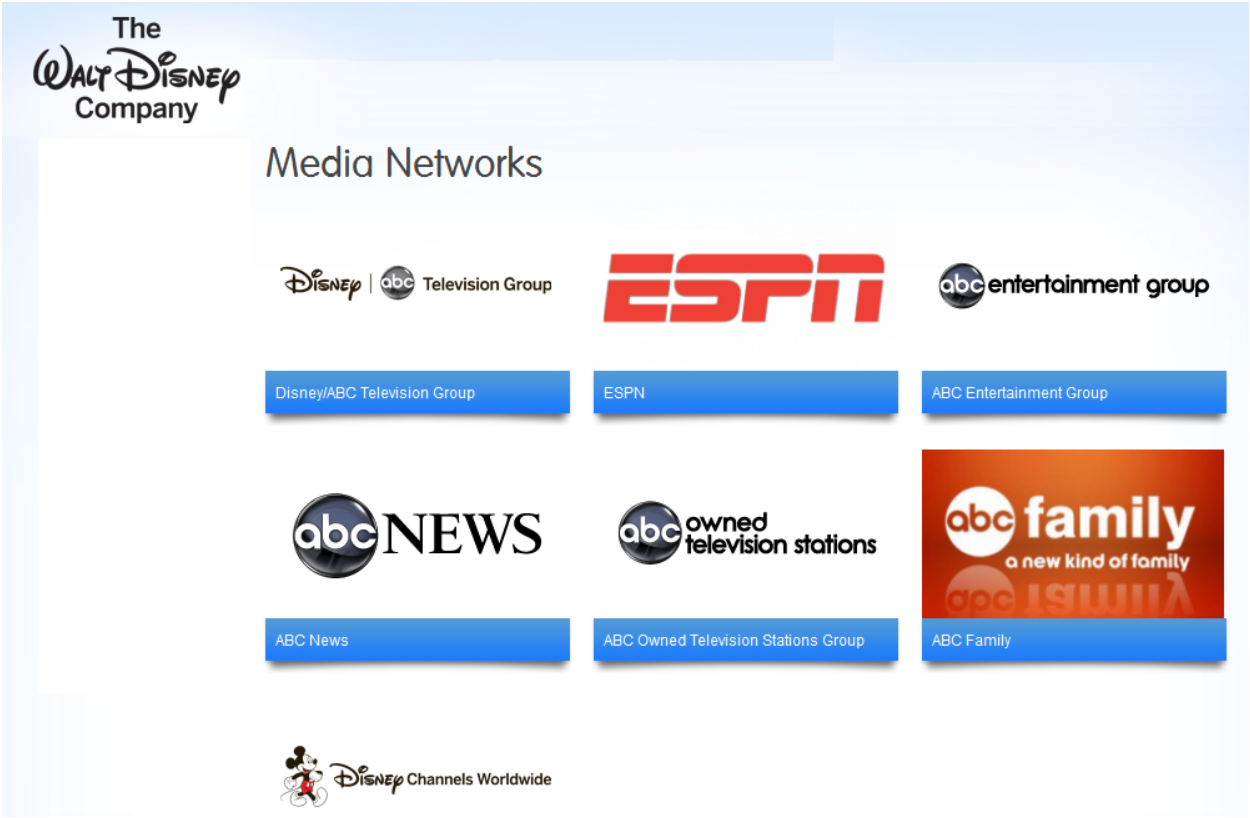
- New construction jobs during the building of the project
- New local jobs during operation

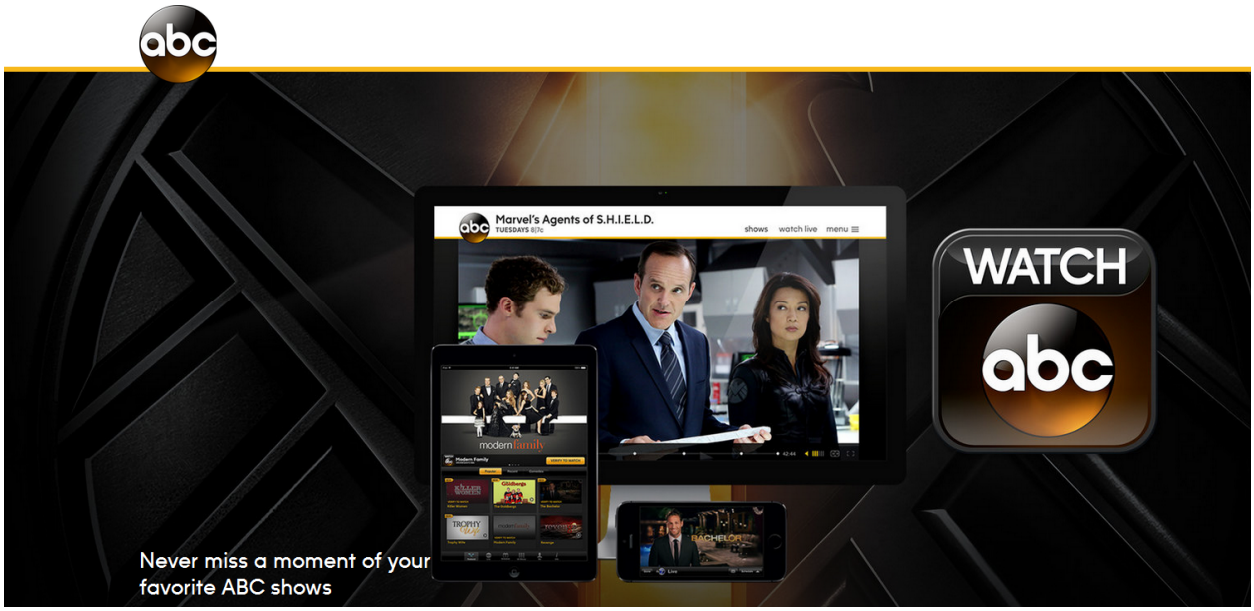
In summary the TGQ Model will allow Tax Indifferent Entities to achieve the following five goals:

1. Obtain funding to build new constructions and to renovate existing structures
2. Refinance existing bond debt
3. Reduce energy consumption on physical structures by as much as 60%
4. Hire and Educate a new workforce in "Green Technology"
5. Put money and jobs back into the local community

SECTION L – LIVE TV CONTENT PROVIDER







HEARST *corporation*

Hearst Corporation includes some 200 businesses in more than 100 countries around the world.



newspapers >>

Hearst Newspapers owns 15 daily newspapers, including the *Houston Chronicle*, *San Francisco Chronicle*, *Albany Times Union* and *San Antonio Express-News*.

magazines >>

Hearst Magazines is one of the world's largest publishers of monthly magazines, with 20 U.S. titles and more than 300 international editions.

broadcasting >>

Hearst Television Inc., formerly Hearst-Argyle Television, comprises 29 television and two radio stations in geographically diverse U.S. markets.

entertainment & syndication >>

Hearst Entertainment and Syndication includes the Company's cable network partnerships, television programming activities, and newspaper syndication and merchandise licensing operations.

ventures >>

Hearst Ventures makes strategic investments in companies operating at the intersection of media and technology, and is a conduit for bringing leading-edge intelligence and partnerships to all parts of the company.

business media >>

Hearst Business Media operates more than 20 business-to-business information services, electronic databases and publications.

real estate & other operations >>

Hearst Real Estate & Other Operations includes Hearst Realties, San Francisco Realties, San Simeon Ranch Division, Sunical Land & Livestock Division and Hearst Service Center.

SECTION M – P3GM Public – Private Partner

P3 Global Management Inc. (P3GM) creates Public-Private Partnerships, enhancing the livability of public entities such as Transportation Agencies through continuous innovation. P3GM provides the capital and management expertise to increase the value and performance of Transportation infrastructure assets by investing in transformative energy, transportation, communications and safety technologies. P3GM is funded through private equity and has its own balance sheet for project investment. For large scale projects P3GM syndicates financing through a family office, Grupo ICD a Telecommunications and Energy fund. inMotion has selected P3GM to enhance and integrate the connectivity created by the MBTA Wi-Fi development project. All of P3GM's capital deployments and investments are cost neutral to MBTA. P3GM recovers their investment through new and enhanced revenue streams as well as cost savings. In summary P3GM can expand the reach of the Wi-Fi project by outfitting the right of ways and other MBTA property with:

- Smart LED platform, parking and building lighting with sensory applications
- Communications
    A. Interactive Way Finding Kiosks
    B. Sponsorships, Branding, Digital Media, Pole Banners
- Machine-to-Machine (M2M) Networking and Data Analysis.

P3GM believes that cities and transit agencies, just like private sector business, face competition from one another every day. Today's cities are constantly competing for new jobs, new corporate headquarters and increased citizenship, all of which allow cities and the surrounding environs to generate additional revenues. Entities that recognize the need to integrate new technologies into existing infrastructures will successfully separate themselves from the competition. The challenges these forward thinking cities and transit agencies face include: the enormous scale, technological complexity and continuous costs associated with such projects. P3GM's unique proposal is to work alongside inMotion and the MBTA as partners by recognizing both near-term and long-term trends in technology and communications that unlock real value; enhancing the rider experience.

Smart LED Platform, Parking and Building Lighting with Sensory Applications

P3GM would integrate and finance '*smart lighting'* for the MBTA that is focused on providing a networked solution creating the backbone for a number of enhanced features such as lighting controls, video and audio safety monitoring, motion and environmental sensors, automated and ambient lighting controls and speed sensors providing an added point of contact for inMotion deployment and connectivity. We are strong advocates of smart lighting as it brings about significant cost savings and notable reductions in carbon emissions:

Energy Cost Savings: We believe that 50– 60% energy cost savings is possible for MBTA by switching to LED replacements.

Material and Maintenance Cost Savings: We believe MBTA will be able to realize significant real and/or notional material and maintenance cost savings. MBTA can redeploy existing labor to provide alternative related services.

Carbon Emissions Reduction: In addition to significant reduction in carbon emissions due to lower electrical consumption, the longer life of LEDs translate to reduced carbon output from lower usage of maintenance vehicles and lower usage of light consumables (as LEDs only need to be replaced after 50,000 plus hours). Moreover, LED lights contain lower amounts of hazardous materials.

Improves MBTA's Creditworthiness: Given electricity spending represents a major line in most operating budgets, the cost savings generated will improve debt coverage's and/or credit ratings and thereby may lead to lower financing costs. Moreover, the P3GM proposition does not demand any upfront capital from MBTA and therefore does not add further indebtedness to the Agency's balance sheet.



Depending on MBTA's needs and desires, P3GM can include the following potential technology enhancements in its offering:

Lighting Controls: Allow for individual lights or a group of lights to be manually and/or automatically brightened or dimmed from a centralized location or remotely (i.e. from central station).

Digital Cameras: Provide for a continual video stream if desired.

Motion Sensors: Lights can be programmed to turn off and on with motion, which can drive additional energy savings.

Power Monitor and Energy Efficiency Management: Provides reporting analytics and real-time data usage.

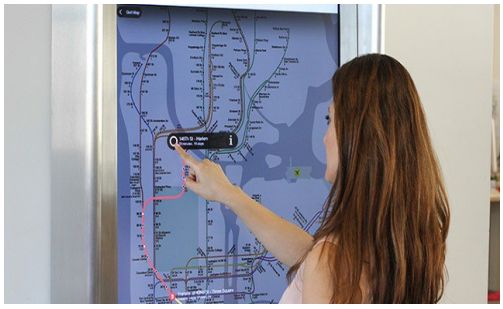
Environmental Sensor Monitoring: Through the use of sensors, the MBTA would be able to track CO2 and other emissions.

In addition, light poles and fixtures can be excellent locations for Wi-Fi nodes and connectivity to underground fiber. In many cases lights, often overlooked and underappreciated, can be the underpinning to smart communications strategies.

In regard to generating significant cost savings from a switch from conventional to LED lighting, the focus is on four major areas over the life of a long term contract: (i) cost of LED vs. conventional bulbs and the associated installation; (ii) ongoing maintenance and operational costs based on existing contracts with electrical utility; (iii) ownership of the light poles and heads; and (iv) the usage of electricity.

Interactive Way Finding Kiosks

Digital kiosk technologies offer commuters free and real time access to departure and arrival information, social media, messaging, bus and taxi connections, attractions, news, weather, local shopping, directional interactive maps, the ability to make reservations, purchase movie and event tickets, custom entertainment apps, sponsorship opportunities and so much more.



All capital requirements for the kiosks would be provided by P3GM and costs are recovered by user fees, advertising and sponsorships. Once costs are recovered, inMotion/P3GM will enter into a revenue sharing with MBTA. In addition, these kiosks can extend inMotion's Wi-Fi reach creating a mesh network of Wi-Fi throughout MBTA platform, parking and facilities.

Sponsorships, Branding, Digital Media, Pole Banners

P3GM's founders and executive management include seasoned media and technology professionals and have specific experience in developing out of home media holdings. P3GM proposes to work with MBTA as their representative to manage existing media relationships and create new revenue from tastefully and strategically placed displays including but not limited to billboards, kiosks, pole banners and other displays.



P3GM will also develop corporate sponsorship opportunities for stations and other assets to generate new incomes for MBTA. In addition P3GM will work with MBTA to limit and convert existing signage to modern displays with **guaranteed** media space for public service communication, MBTA centric messaging, Amber and weather alerts, delays and other public interest announcements. As a result of deep industry expertise in media, advertising, display technologies and sponsorships, P3GM in many cases can generate upfront monetization for new displays, convert static displays to digital and negotiate better arrangements for MBTA with existing media operators.

Machine-to-Machine (M2M) Networking and Data Analysis

The collective benefit of introducing smart solutions is improved communication with commuters, residents, businesses, students and tourists using real time data reflecting demographics, economic activity and population circulation. This data can be cultivated through the lighting, audio and visual sensors, smart-phone signals and ticketing/buying behavior. There is a value to these analytics from businesses and advertisers alike, creating another shared revenue stream for MBTA.



This data can be used by MBTA as well to better understand travel patterns and preferences, to attract ridership, concessions, businesses, improve safety and more so the overall MBTA experience, projecting the voice of MBTA and the emerging brand that will define its future.

MANAGEMENT TEAM

Jim Campbell - Chief Executive Officer

Mr. Campbell currently serves as Chief Executive Officer of P3GM. Prior to joining P3GM, Jim served as CEO and President of Metromedia Technologies, where he was responsible for strategic leadership and operational guidance for digital print, media and environmental companies, divisions and licensees in the United States, Asia, Australia, Canada, Europe, India, Latin America and the UAE. Metromedia Technologies (MMT) revolutionized Outdoor Advertising worldwide by introducing a patented digital print process bringing photo realism, efficiency and consistency to a stagnant industry catapulting the medium into the 21st Century. Jim was also the architect of a global divestiture of assets creating a technology management and licensing model further proliferating MMT's technology into China, South Korea, Spain and Lebanon. In addition Jim has served as an interim C-Level executive on a retained basis for companies in the manufacturing, media and display industries as well as held positions at InnerWorkings, an international procurement firm and CBS Corporation's out-of-home media division managing Global Business and Corporate Development. Jim received a Bachelor of Science degree from Providence College in Providence, RI and conducted continuing studies at MIT - *Managing Technical Professionals* and at Cal Tech - *Strategic Planning*.

Sergio Fernandez de Cordova - Co-Founder/Chief Business Development Officer

Mr. Fernández de Córdova, is a co-founder of P3GM leading the company's business development activities and serving on the board of directors. Sergio is an internationally recognized entrepreneur, investor & philanthropist working at the intersection of media and leveraging public-private partnerships for social impact.

Sergio co-founded Fuel Outdoor Holdings (fueloutdoor.com) in 2003, growing the company to over 4,000 outdoor advertising locations in nine markets nationwide, making it one of the top 3 largest, privately owned companies in the industry. He sold the company to Och-Ziff, a global institutional asset management firm with over $31 billion in capital, and exited in 2011. Och-Ziff successfully sold the company to Van Wagner Communications in November of 2012. Sergio is more than just a sharp businessperson; he is one of the youngest initiators of public-private partnerships to drive business and social change. Launching from much of his work at Fuel, Sergio single-handedly forged a variety of private-public partnerships with political and business leaders in cities such as Miami, Chicago, New York and Dallas. As a reflection of his progressive understanding of business and a burgeoning global economy, he is an active investor or advisor in multiple start-ups and emerging market expansions focused on multilateral groups, media and technology. In 2009, Sergio represented the Entrepreneur Organization (EO) at the G8 Young Business Summit in Italy and again represented EO Global at the YES – European Confederation of Young Entrepreneurs Annual Summit, speaking to European Commission members. In 2010, he served as one of five delegates from the US to attend the G20 in Toronto. He was later chosen to serve in a delegation for the Past Presidents of Latin America and attended the Aspen Institute's Ideas Festival and the Biennial Gathering of the Americas. Sergio has also repeatedly spoken at the Economic Forum of the Americas, the Forum for Global Cities, speaking on business development in emerging countries. Today, Sergio is Co-Chairman of the World Energy Forum's Next Generation Energy Leaders; a board member of the United Nations Foundation's Global Entrepreneurs Council, an official delegate for the US Department of State's Global Entrepreneurship Program; Co-Chairman of the G8 Young Summit; a member of the Council of Underserved Communities for the US Small Business Administration; National Co-Chairman for Technology for Obama, T4O; Co-Chairman of the Young Leaders Board for the Global Center for Development and Democracy, a group made up of 20 past Presidents of Latin America; and sits on DELL's EIR Board of Advisors, advising Dell on ways to reengage with the next generation of business leaders. A graduate of Rutgers University with a Bachelor's in Sociology, Sergio also completed the MIT Enterprise Forum/Inc./Young Entrepreneurs Organization's The Birthing of Giants® executive program, an annual program for 60 hand-picked worldwide business leaders under the age of 40. He lives in New York City.

Antonio Ruiz-Gimenez, Jr. - Co-Founder/Chief Strategy Officer

Mr. Ruiz-Gimenez, Jr. is a co-founder of P3GM leading the company's strategy activities and serving on the board of directors. Antonio is an entrepreneur with a record of launching progressive, dynamic companies across multiple industries from finance to fashion to social media. Most recently, Antonio embarked on reshaping several industries through Infrastructure Media Group Holdings – IMGH (imgh.com) and Innovators Fund (innovatorsfund.com); two enterprises he co-founded in 2012. IMGH is a holding company focused on global infrastructure, energy, commodities and public-private partnerships; and Innovators Fund is a collaborative-based seeding platform investing in global disruptive civic-focused technology ventures. Prior to his current ventures, Antonio co-founded healthcare hedge fund YYC Capital in 2009 and oversaw the fund through early 2012, during which time his fund's portfolio manager was recognized in Fortune's "40 Under 40". Antonio's earlier ventures include Cabool Australia, a surf clothing company that he founded in 2003 and grew from a mere concept to a brand with an international presence in over 250 stores spanning four continents. Prior to Cabool, in 2000, he pioneered one of the original European social media networking sites, altering the way we communicate far in advance of today's platforms. Antonio dedicates his free time and resources to PVBLIC Foundation (pvblic.org), a foundation he co-founded, which focuses on repurposing and donating millions of dollars' worth of unused media space to non-profits each year, amongst other

philanthropic and charitable activities. Antonio holds a law degree from the Universidad Complutense de Madrid and lives in New York, NY.

Rhonda Binda - Vice President, Government Relations

Ms. Binda currently serves as Vice President, Government Relations group of P3GM. Prior to joining P3GM, Rhonda launched and served as a Deputy Director for the US Department of State's Global Intergovernmental Affairs division. During her time at the State Department, Rhonda advanced US outreach on international matters affecting states, municipalities and tribal communities in the US and globally, with a focus on key policy areas for the administration including urbanization, economic statecraft and sustainability. Rhonda has collaborated with the United Nations, multilateral organizations, and banks including the Export-Import Bank, TDA, OPIC, IDB, AFDB, ADB and the World Bank on state and local projects specifically related to urban infrastructure. Prior to working at the State Department, she was a Senior Associate at Alston & Bird, LLP in the Energy, Infrastructure, Climate Change & Technology Group. She also served on the Obama-Biden Presidential Transition Team, and is a former White House and US Senate staff member. Rhonda received her Juris Doctor from Georgetown University and a Bachelor's in Economics and Public Policy from Duke University. Rhonda was a Lord Rothermere Scholar at New College, Oxford University and is a member of the District of Columbia and New York State Bars.

Johann S. Rayappu - Vice President, Investments and Deal Management

Mr. Rayappu currently serves as Vice President, Investments and Deal Management group of P3GM. Prior to joining P3GM, Johann spent 10 years at Macquarie Capital working on investment banking and principal investment assignments across several industries (including infrastructure, natural resources, real estate, media and technology) and has successfully completed client and principal transactions with a total value of $10 billion. Most recently he served as a Vice President for Macquarie Capital's Principal Transactions Group from 2009 to 2011 where he was responsible for the assessment of new investment opportunities and portfolio management of existing investments. Johann's select transaction experience in the infrastructure/P3 and media sectors include the acquisition of Aquarion Water Co. by Macquarie and its managed funds, advising a client on their acquisition of a US student housing businesses structured as a P3 with the university to own, operate and manage on-campus student housing facilities over a 40-year concession and the attempted acquisition of Primedia Inc. (portfolio of online real estate classifieds businesses). Johann received a Bachelor of Commerce in Finance and Bachelor of Science in Mathematics from The University of New South Wales in Australia.

SECTION N - TECHNOLOGY

Network Architecture and radio frequency details

FERRY BOAT NETWORK



COMMUTER RAILROAD NETWORK

A Network Diagram is provided below for each individual line.

NEWBURY LINE



HEAVENHILL LINE



LOWELL LINE



FITCHBURG LINE



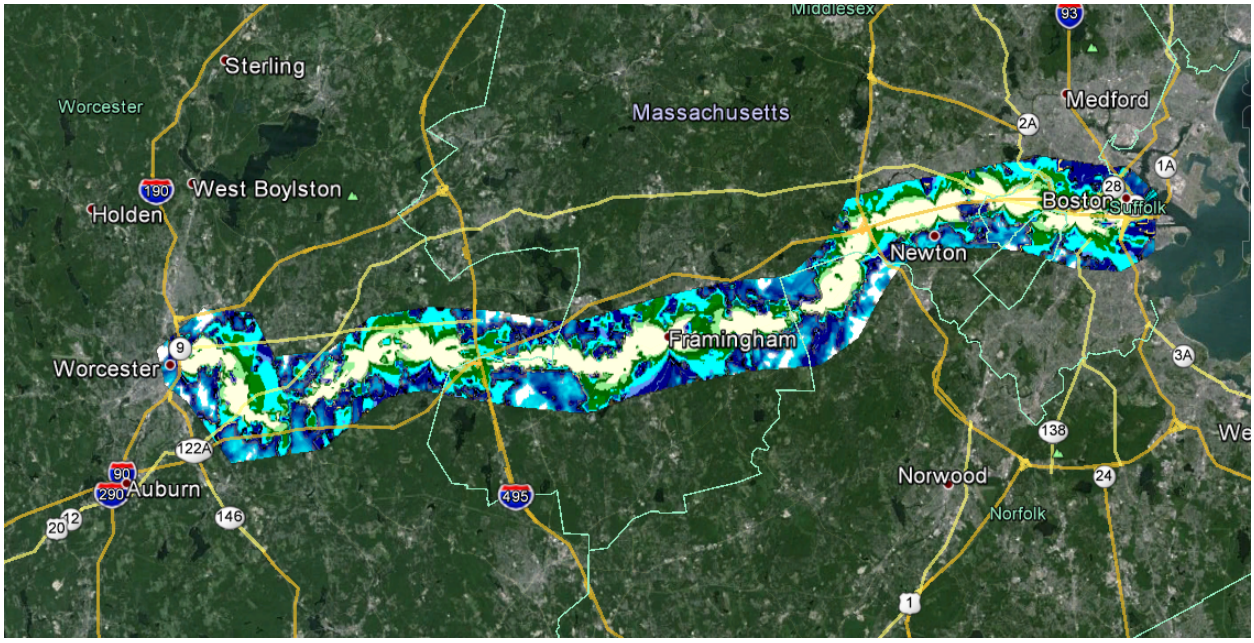
FORGE PARK LINE



WORCHESTER LINE



WORCHESTER LINE



NEEDHAM LINE



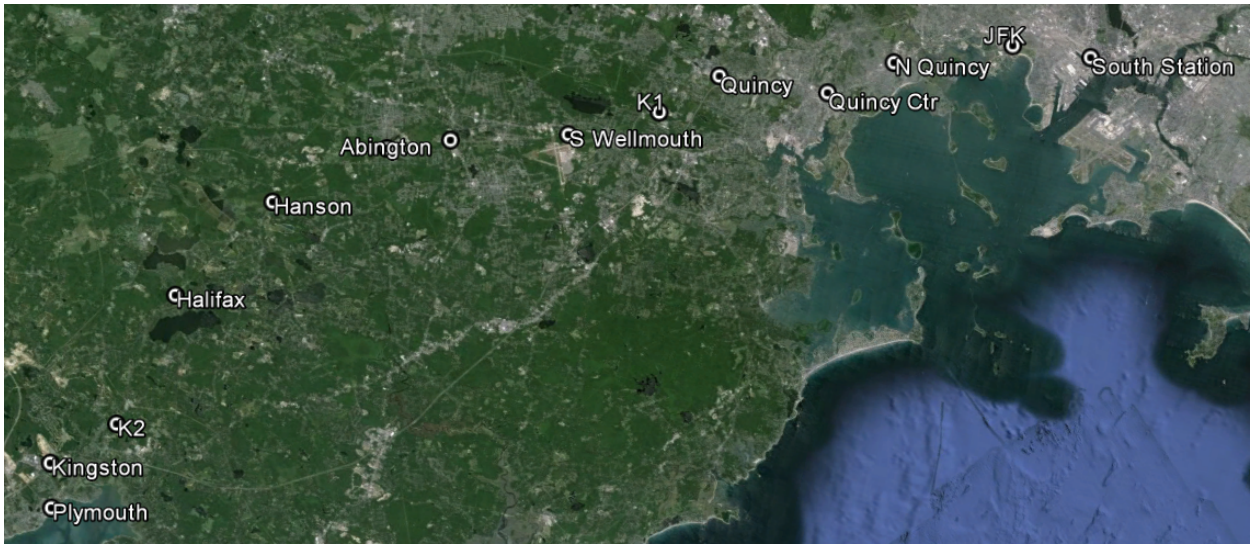
PROVIDENCE LINE



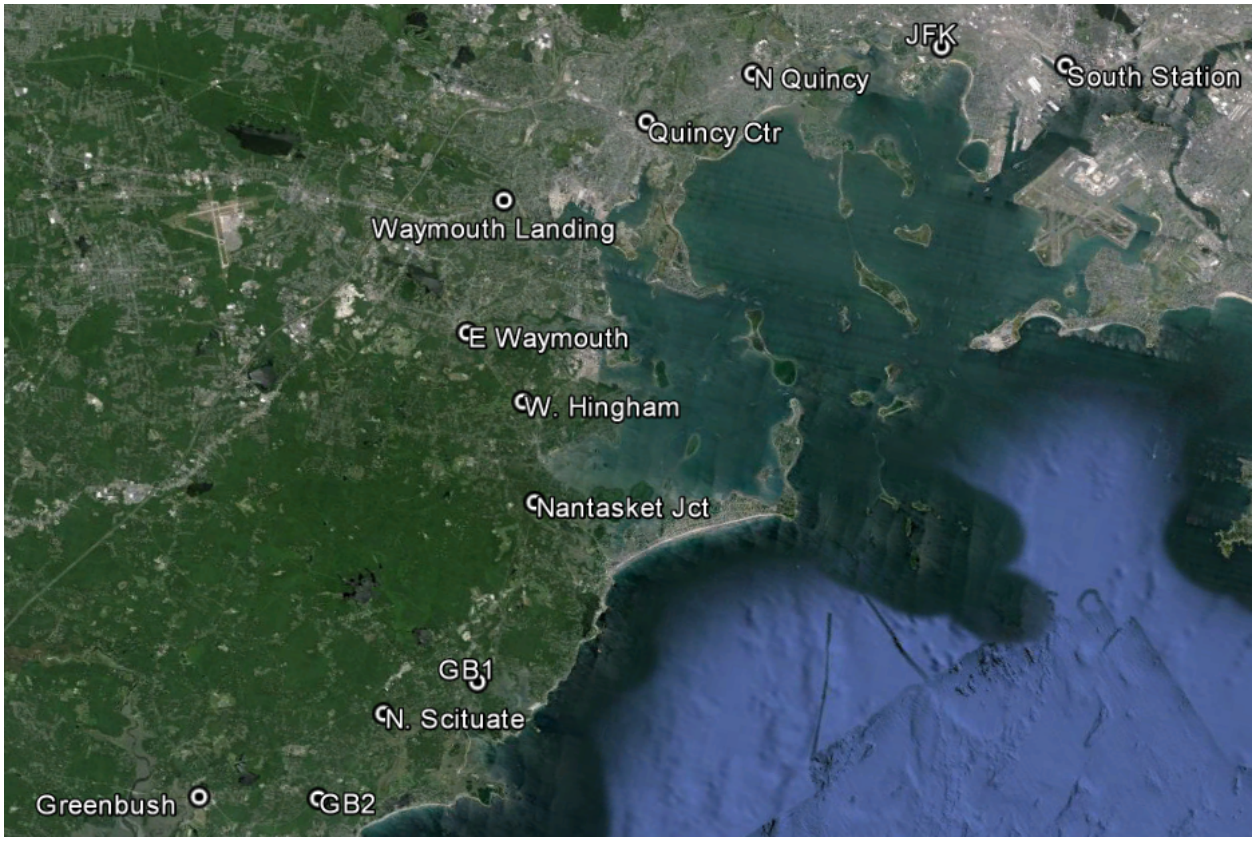
LAKEVILLE LINE



PLYMOUTH LINE

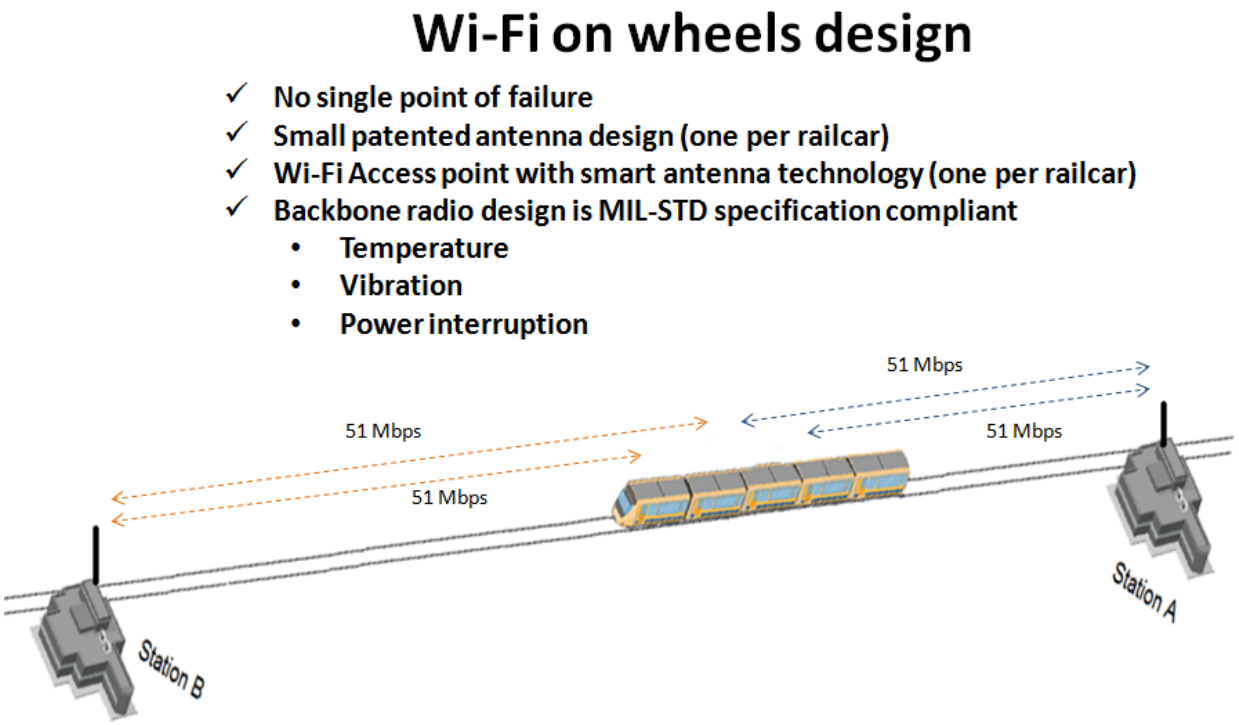


GREENBUSH LINE



The overall solution is based on patented 3.5-3.7 GHz technology engineered to provide true broadband data speeds to railcars and ferry boats. Base stations with specifically designed for railroad applications patented antennas, will be installed and mounted at all stations along the service route with a few filler base stations placed at selected locations along the rail line to provide coverage in areas not serviced by the station mounted radios. All base stations comply with LTE 4G small Cell standards. Fiber optics links or Point to Point radio links provide connectivity between Commuter Station mounted base stations with an Internet feeder point at the stations on a 1 to 5 ratio. This provides robust communications with no more than 2 radio link hops to a base station if implemented.

The system utilizes 3.5-3.7 GHz frequencies with adaptive modulation and OFDM technology. Five (5) or Ten (10) MHz channels are used at the base station level with GPS synchronization among all base stations for spectrum re-use efficiency.



The utilization of each RF carrier in the 3.5-3.7 GHz band will provide at a minimum 50 Mbps to the rail cars or ferry boats with bandwidth being allocated on a 20/80 ratio for upstream and downstream data. System is scalable to accommodate VoIP traffic if needed. Our advanced solution deploys a Software-Defined Radio system, or SDR radio communication system which uses general purpose components and robust modem architecture to upgrade to any future radio technology. Moreover, by using general purpose components, the equipment used has large-scale cost benefits as well as various chipset suppliers which reduces costs and enables product lifecycle availability. Our end-to-end 4G small cell solution provides a common platform for a future-proof SDR platform to maximize the reuse of installed infrastructures. Thus, upgrading from 50 MB per RF carrier to higher speeds would occur rather easily.

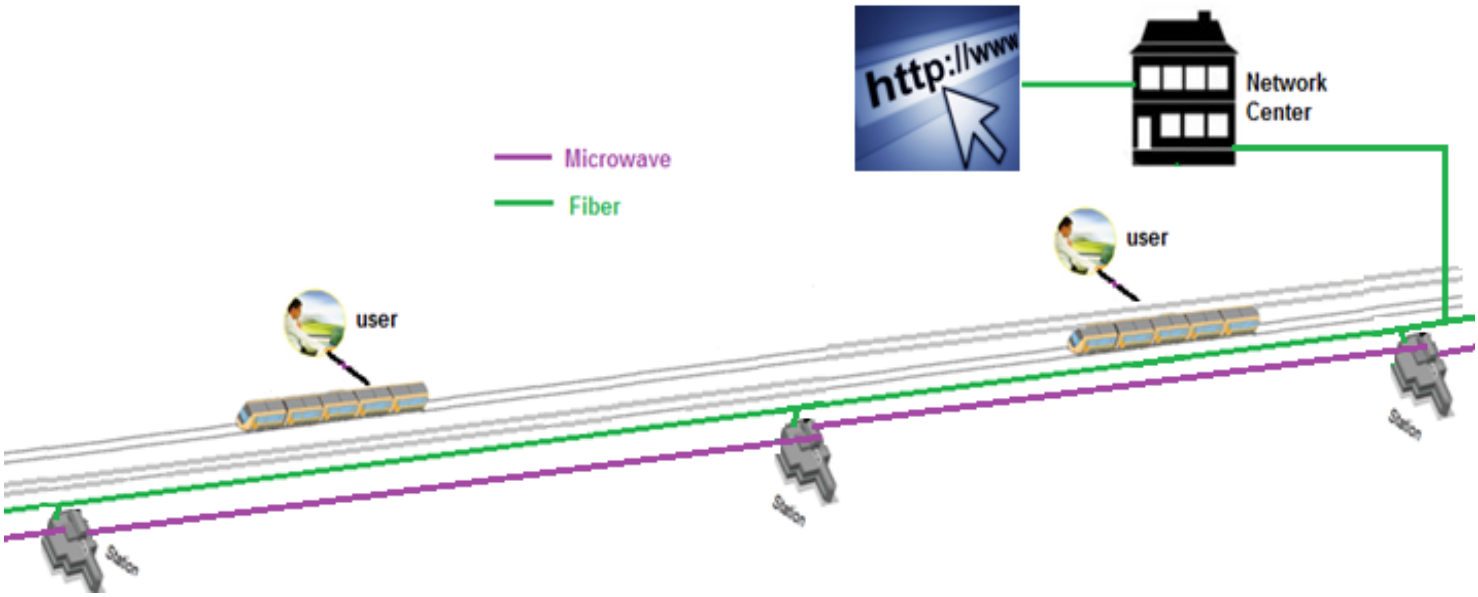
1) All Telecommunications provisioning would be provided by inMOTION.

2) The proposed solution provides a robust and scalable architecture utilizing industry standard based technology for delivering backhaul services to the rail cards and standard Wi-Fi access for in car services utilizing dual frequency 3x3 technology. The total solution provides 140 base stations. This level of base station saturation provides a total of over 14 Gbps of combined Wireless bandwidth throughout the network providing expansion capabilities by simply adding more Internet capacity at the feeder stations. Additionally, excess capacity from the wireless system can be used to provide MBTA with track level device connectivity.

3) The proposed solution has the capability of interfacing with any other existing or planned networks owned or operated by the MBTA either at the switching and routing level or by RF interfaces to MBTA devices.

4) The proposed solution utilizes AES encryption across all backhaul and point to point RF systems and industry standards based security options. The in-car or ferry boat systems support all Wi-Fi based security and encryption options and can support multiple user tiers for encrypted and un-encrypted user connection options.

The cornerstone of a successful wireless implementation is the detailed site survey and associated RF engineering. The individual RF "1 meter simulation design," provided in this proposal for the Westchester line was performed to prepare the budgetary price and configuration for the proposed network. However, before deploying any equipment, inMOTION will complete a formal, detailed site survey. The details of this detailed site survey are described in this section.



Wireless System Features

The radio equipment is based on LTE Technology small cell station architecture. The infrastructure utilizes software defined radios which can run LTE radio features and provides dual radio transceivers which use 2x2 MIMO TX/RX operation. Additionally, the system offers an integrated wireless backhaul option, which allows the network operator to run access and backhaul from one, highly integrated unit. This saves on space needed for mounting and reduces backhaul costs. The base station component communicates with specially developed mobile terminals.

The Mobile Radio Transceiver (MRT) is designed for vehicle mounting, can operate on either LTE platforms and also creates a Wi-Fi hotspot to connect additional devices. The MRT can be powered directly from the vehicle and offers flexibility to fit several deployment scenarios.

The system offers a comprehensive, integrated Network Management System (NMS) for simple control of all of the components on the network. NMS provides automated alarms, remote configurations and software updates, all through an easy-to-use interface.

System is supported by a variety of core network products to match the requirements of the network.

Features

- Multi-layer wireless topology – utilizing existing trackside sites and new pole mount nodes
- Coexists with legacy wireless technology
- Ultra compact, rapidly deployable trackside & rolling stock infrastructure
- Integrated wireless backhaul minimizes trackside fiber POP count
- Downlink and Uplink centric (fully configurable) data rates
- Suitable for track & rolling stock telemetry backhaul, mobile workforce and on train internet services

Main radio characteristics

- Wide Licensed Frequency Band Coverage
- 700 MHz, 800 MHz, 2.6 GHz, 3.5 GHz, 1.4 GHz, 2.3 GHz, 3400-3600 MHz, 3600-3800 MHz
- 2 x 2 MIMO antenna design
- 2 x 30 dBm power rating
- Fractional Frequency Reuse

Installation and configuration options

- Managed with NMS - Highly integrated central and distributed NMS
- Self-configuring equipment
- Remote services and configuration changes
- Network maintenance and alarms/monitoring reports
- Optional integration with 3rd-party SNMP management systems
- SON (Self Organizing Network) for large scale networks

Special features for Railroad deployments

- Wireless redundancy
- GPS (on the ground) and IEEE-1588 (on the ground and underground) based synchronization
- 2 x 2 MIMO Matrix A & B transceivers for high performance
- Optional wireless backhaul

Radio physical layer adaptations for high-speed applications

- Symmetrical Uplink and Downlink MIMO - for improved data rates
- Doppler corrections for high speeds (Proven on Formula 1 cars with high availability video, voice and telemetry services)
- Resistance to inter-cell interference, Band AMC (Adaptive Modulation and Coding) for frequency contiguous transmission
- Real-time scheduling based QoS for differentiated service flows, mixing time-critical and non-critical data flows
- TDD radio, optimal for high speed trains and systems, flexible UL/DL balancing

Standards, mechanical, environmental specifications

- Full FCC wireless compliance for mobile radio equipment
- UL approved electrical safety of equipment
- Mechanical robustness, NEBS GR (63,487, 1089, 3108)
- Interference-free Base Station operation (ITU-R. M. 1580-3)
- Unwanted spurious emissions (CEPT/ERC)
- IEC 60950, 61000-42/4-6; EN 50155, 50121

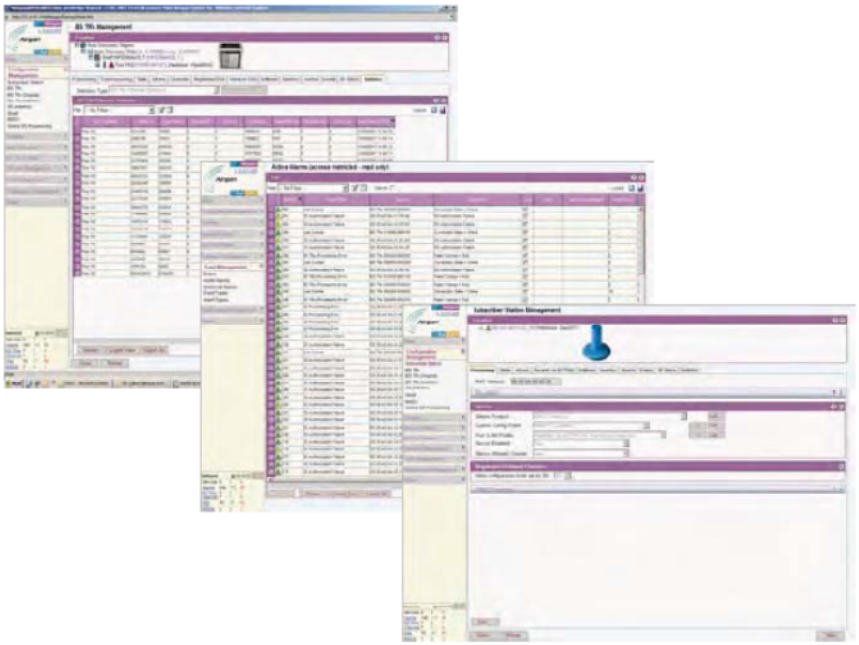
NMS

NMS is a centralized network manager which supports a client / server architecture. The NMS server runs on a PC platform, making use of an SQL database to store the configuration, statistics and alarm history from the radio network. Access to the NMS server is from Microsoft Internet Explorer, using the web service of the NMS server.

Each NMS operator is given configurable access rights, allowing each operator to be granted the rights appropriate to their function.

NMS provides configuration and diagnostic access to all AS4020 network components, right down to each individual Subscriber Terminal. NMS also manages the AS.MAX and AS4000 Range of products.

- Local web based client management of individual system components used to configure small systems and networks
- Management via third party SNMP management tool using the standard MIBs
- NMS network management server based on .Net platform
- Already running numerous WLL networks worldwide
- Distributed server architecture support
- Full system configuration, operation and maintenance via standard web client
- SNMP API support
- Uses standard MIBs for all configuration and O&M activities



Multimedia Core Platform

Mobile Broadband Services Growth

This platform combines high capacity, high availability, and powerful performance with subscriber and network intelligence. The access-independent Cisco ASR 5000 can be transparently deployed in mobile networks, including:

- Long Term Evolution (LTE)
- Wi-Fi

The Cisco ASR 5000 Series addresses the tremendous growth in mobile broadband services with:

- High performance across capacity, throughput, and transaction rate metrics
- Multiple functions integrated for service and network flexibility
- Deep packet inspection for enhanced charging and user understanding
- Simple and rapid scalability
- High reliability with session recovery and geographic redundancy

This platform also incorporates major innovations, such as:

- Multiple functions supported in a single node
- Cisco In-Line Services for highly flexible service control and operational simplicity
- Detailed protocol monitoring, debugging, and subscriber statistics

Reliability with No Service Interruption

The ASR 5000 features embedded and operations software that takes full advantage of the redundant hardware designs, such as the self-healing switching fabric and independent management and control busses. The platform features an intelligent system that anticipates faults and provides quick, non-service-disrupting recovery to maintain subscriber sessions.

All service availability features built into the ASR 5000 mean that most failure cases do not result in any downtime, and in the rare event there is downtime, it is usually measured in the range of milliseconds rather than minutes.

The system architecture contains no single point of failure, both for hardware (platform) and software resources. All system elements and processes have backup for failover and recovery; and for session failures, the system provides fault containment that minimizes service impact, as well as session recovery capabilities.

Gateway
Based on industry standards having the ability to manage subscriber mobility at a number of layers as well as to authenticate, account and apply policy on a per subscriber basis. This is achieved by dividing the network into two main parts:

- Access Service Network (ASN) and
- Connectivity Service Network (CSN)

The ASN consists of the base stations and the ASN Gateway (ASNGW). The CSN is at the core of the network providing control and management functions such as IMS, DHCP, FTP and AAA.

A key element of the ASN is the ASNGW, which controls and aggregates the traffic from a large number of base stations. Such industry compliant network may be deployed without an ASN-GW providing the wireless access network is used for fixed and nomadic applications only.

The AN1 platform provides an ideal entry level footprint for distributed coverage mobile applications with a modest number of subscribers and data throughput requirements.

The AN1 platform is an ideal subscriber mobility gateway for Mobile radio access networks. The ASN Gateway and Home Agent (HA) functions deployed on an AN1 are designed to support connection and mobility management across cell sites through processing of subscriber control and bearer data traffic. The ASN Gateway serves as the Extensible Authentication Protocol (EAP) authenticator and mobility key holder for subscriber connections and RADIUS client to attached AAA servers. The HA is a router on a mobile node's home networks that maintains information about the device's current location, as identified in its care-of-address.

Each ASN Gateway can concentrate traffic from multiple radio base stations, which reduces the required number of devices under management and AAA transactions while minimizing connection setup latency by decreasing the number of call hand-offs in the network

Key Features and Benefits

- Full ASN Gateway and HA functionality
- Robust throughput, call transaction rates, packet processing, and memory providing a highly efficient and effective core network in a small form factor
- Full suite of mobility management capabilities, including CMIP and PMIP v4/v6
- Subscriber and network intelligence typically only found on capacity platforms with deep packet inspection and application-based routing for In-line Services
- Rugged, carrier grade design plus state-full software recovery

SECTION O – EQUIPMENT

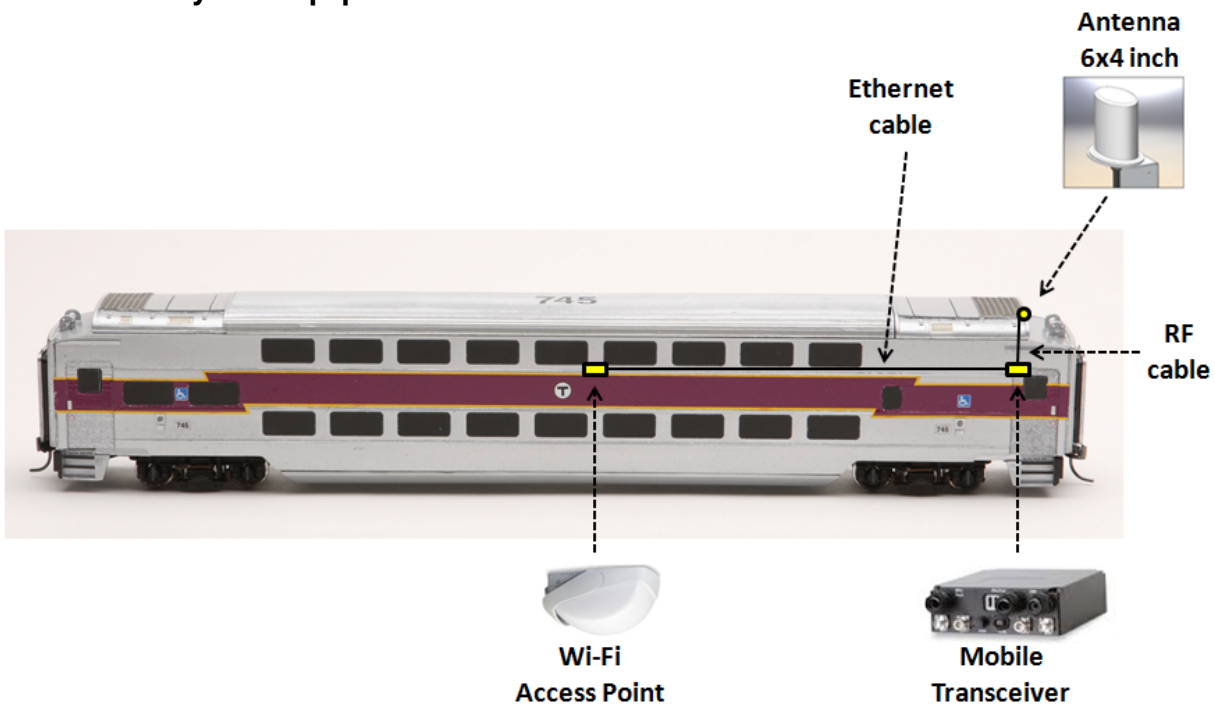
RIGHT of the WAY





- Compact Design – all in one (Radio/Modem/Power)
  - Small, easy to deploy
  - Requires only commercial power and Ethernet circuit to function
  - Add capacity by adding another unit
- Software Defined Radio (SDR) design
- 16e+, LTE ready
- 51 Mbps per carrier
- Flexible mounting options
  - Rooftops
  - Walls
  - Poles
- Mature, Field proven technology
- Size: 20.8 x 5.2 x 3.3 in.
- Weight: 12 lbs

Railcar and Ferry Boat Equipment





Railcar or Ferry Boat mounted CPE
Rugged IP-66 rating
Powered directly from Railcar or Ferry Boat or outside source

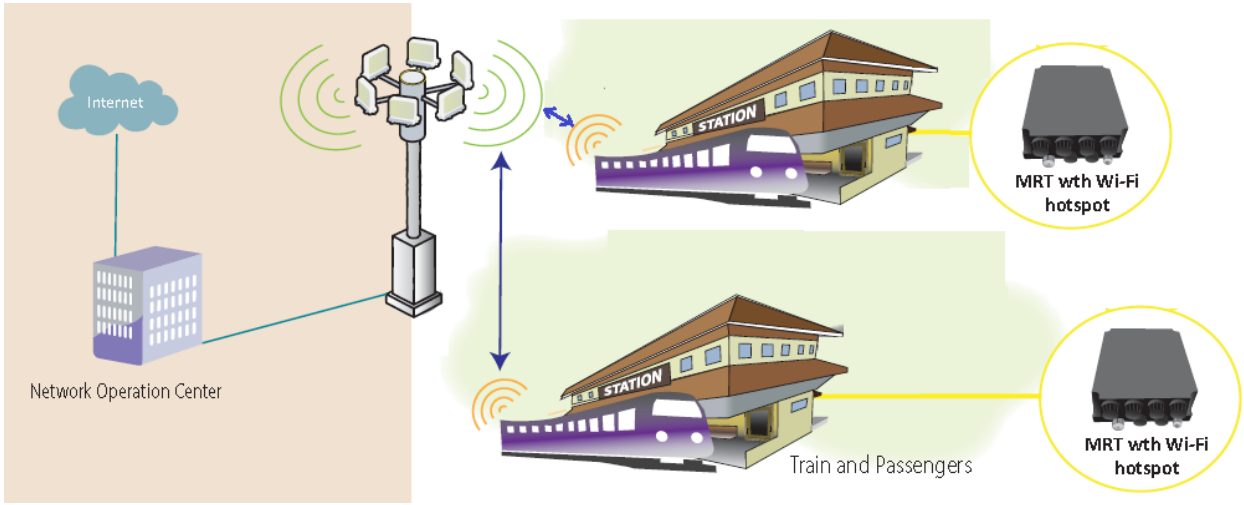
BPSK, QPSK, 16QAM, 64QAM
Operates on a wide variety of licensed and license-free frequency bands:

- 700 MHz, 1.5, 1.9, 2.3, 2.5-2.9, 3.3-3.8, 4.9, 5.6, 5.8 and 5.9 GHz

Wi-Fi Operation

- Access Point or Bridge
- Embedded DHCP Server for LAN

Small and easy to install



Design and Installation Plan

Architecture and design services will be performed by inMOTION and the equipment manufacturers. Certified RF Engineers, Network and Security Engineers and Structural and Electrical Engineers will work with inMOTION and MBTA staff (if desired) to design and implement the network.

Pre-Survey Information Gathering

Prior to the on-site survey, the inMOTION Project Manager and lead engineer will work with the MBTA to discuss and finalize the specifics of the proposed network. During this meeting, inMOTION will review and document information such as:

- Intended use of network
- Expected throughput and coverage
- Mounting assets that can be used for the network
- Available GIS Data
- OSS/BSS requirements
- Availability of Fiber, Cable or other backhaul assets
- Other information that impacts the network design

Once the pre-survey information has been collected, the design team will map out all known assets and begin pre-designing the network with those assets in mind. This initial design forms the basis of the on-site survey, which is the next step in the process.

Detailed Site Survey

inMOTION will perform a complete on-site Radio Frequency (RF) site survey of the area. This survey will give inMOTION an exact layout of current RF topology along the train routes. Through this process, inMOTION will gain a comprehensive understanding of the buildings, towers, fiber network, topography, and building, tree, and population densities that are unique to each area. Line of sight, interference, distance, cable loss, climate zone and many more factors affect the performance and reliability of a wireless network, and must be addressed with consideration for each unique topographical environment. Only a comprehensive site survey of the proposed frequencies that takes these factors into consideration can properly identify the exact position and number of base stations that are required to successfully deploy the network. inMOTION has more than 30 years experience designing, installing and operating broadband wireless networks and has invested in the top talent and tools for engineering wireless networks that are guaranteed to work as expected. Some of those tools include:

- Spectrum Analyzer for proposed frequencies
- Range Finder and GPS
- FCC Data Base Mapping Software
- Micropath 2001 and PathLoss
- Propagation Analysis Software
- 1 Meter Satellite 3D Data Mapping
- Cable Sweeper and Network Analyzer
- Digital Camera and Balloon Floats

During this detailed site survey, the inMOTION team will perform a visual inspection and analysis of all physical assets in the coverage area. During the survey, the team will inspect the all tower and pole locations for RF spectrum, location, power, grounding, and line of sight to the next node and/or a distribution point. Each distribution point will be inspected for the following information:

- Availability of power and grounding
- Cable runs
- Mounting options
- Number of Hops to nearest Backhaul Gateway
- Antenna requirements
- Spectrum availability, by means of an onsite spectrum analysis

inMOTION will also perform a Live Node Test at selected points throughout the coverage area. The purpose of the live Node Test is to collect real propagation data in those areas that will be served by the network. The collected propagation data is then entered into inMOTION's mesh modeling tool and used to enhance the predicted propagation of RF signal, which gives a better prediction plot for the coverage area. All survey information is compiled into a single survey report document that contains pictures of each site and all site details that were collected during the survey.

Engineering Design

Upon completing the site survey, our team has most of the information that they need to prepare the network's final design. Beginning with the maps that were developed as part of the pre-survey, the engineering team reevaluates those maps and updates them with the information collected during the site survey. inMOTION then begins designing the network. The mesh network is designed by taking the information collected during the site survey and running mesh modeling on that data. The mesh

modeling software takes into account terrain, GIS data, clutter data, foliage density, radio output, type of client radio, and a host of other factors to determine the expected coverage of the mesh network.

Survey Report

As a result of the detailed site survey and engineering design, inMOTION will produce a comprehensive survey report that is comprised of the information collected as well as a final network design. The document will contain:

- Executive Summary
- Network design summary and recommendations
- Design maps
- Network diagram
- Spectrum analysis
- Path profiles
- Propagation studies
- Site specific details (including pictures)
- Project plan, scope of work, and revised pricing (if necessary)

The results of this site survey will be presented to the MBTA along with a final network design and implementation plan. The final design will identify locations, equipment, and bandwidth requirements for each site. At that time, the inMOTION team and MBTA will discuss and finalize a list of acceptance criteria that will be used to determine success at the end of the project.

Site Acquisition Services

The network was designed to operate mainly from MBTA existing boarding stations (95% of the proposed network) to achieve both rail-line and station coverage with the same equipment. For the other 5% network sites, site acquisition services will be necessary. This should begin during the site survey process, in order to use the best and most economical assets that are available.

Tower Site Acquisition - This is typically a rather straight forward process of obtaining the applications for the tower company and completing and submitting. After the survey process, inMOTION would have all the information needed to complete the applications. No structural or intermodulation analysis would be completed and submitted to the Tower management company.

Building Site Acquisition **-** inMOTION shall negotiate with property owner to secure all required real estate documents for use of the site, including but not limited to tower/ground leases, amendments and access and utility easements. Note: Site survey must be completed prior to lease execution.

1) Prepare all lease/option exhibits (in electronic format) in coordination with the Legal department.
2) Obtain permission from the property owner for preliminary engineering tests, inspections, drive testing and site visits using access indemnity forms, as needed.
3) Where a master lease agreement exists for a site, obtain and review the master agreement and ensure compliance with special conditions stated in the master lease.
4) Negotiate lease/option agreements abiding by legal and business guidelines.
5) Submit all lease documents for review of business and legal terms.

6) Submit inMOTION approved lease/options for signatures to property owner.
7) Assemble and prepare lease package and submit for authorized signature.
8) Track and monitor lease/option signature routing.
9) Prepare, route and file all recording documents, option payments and other administrative paperwork necessary to complete the lease/option transaction.

Permitting and Entitlements – inMOTION shall prepare and submit building permit, electrical and all other construction-related permits required.

1) Coordinate with drawings, as appropriate, and have them reviewed and pre-approved prior to submission to local jurisdiction (Construction Drawings are priced separately).
2) Confirm all application review processes and time frames with local jurisdictions
3) Obtain approval for building permit (or confirm that building permit approvals are not required) and related construction permits from landlord/property owner prior to submission of permit applications to the local jurisdiction, as required
4) Prepare and complete applications working with in-house legal and governmental staff, as needed
5) Coordinate and attend site visits associated with preparation and completion of construction-related applications

Rail car Design – Our team is very familiar with transportation "platforms" and has pioneered thousands of avionics installations and certifications. We anticipate that similar techniques and methods would be utilized in terms of documentation, testing and certification of components used for on-board electronics.

Construction Drawings – We will provide Professional Engineering (PE) Stamped CAD Construction Drawings for ferry boat and railcar installations.

Installation Services

inMOTION employs a formal project management process for every project. The specific tasks of the implementation plan are documented in the proposed project plan that is included below, but the high level tasks will generally follow these steps:

Equipment procurement – Site installations are expected to begin within 60 days after approval of the final design document. We have already negotiated most of the purchasing long term items and initial agreements are in place to guarantee the manufacturer's product availability.

Testing – inMOTION will perform network testing of the installed components to ensure the system meets the performance characteristics and acceptance criteria specified in the approved design document. Network performance parameters will be recorded on a System Check List. MBTA personnel would be invited to attend all project management formal meetings and planning sessions.

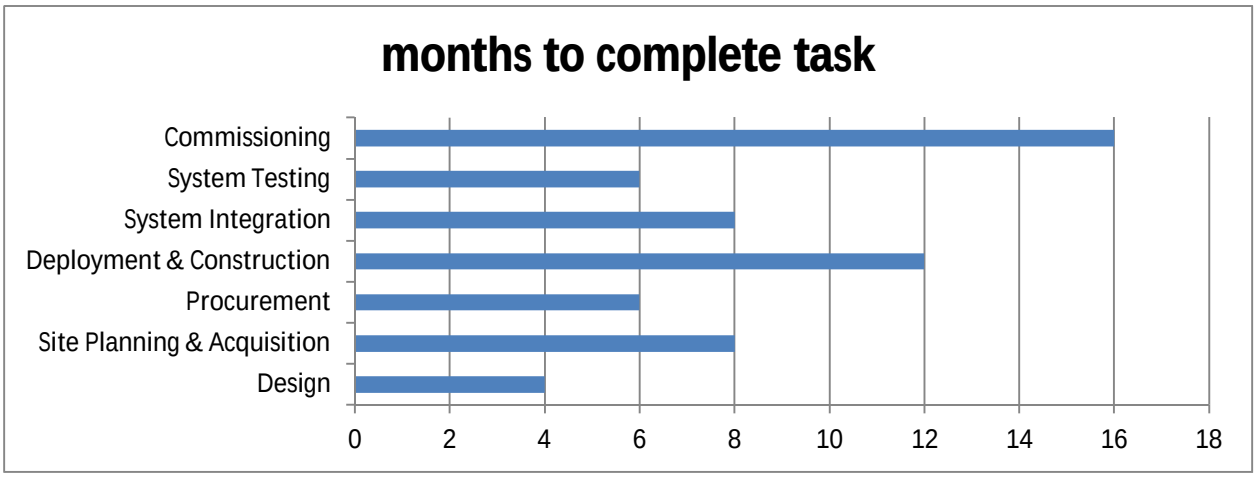
System Testing & Final Documentation

inMOTION will execute a Post-Installation System Operation and Verification and Test (SOVAT) Report that will address all components of the proposed wireless network. Upon completion of system testing,

inMOTION will deliver the results of the SOVAT and final documentation to GRU. This documentation will include:

- SOVAT Results
- Link Analysis Reports
- As Built Diagrams
- Installed Equipment Report

The SOVAT Results will contain documentation of the exact measurements and notations taken at the time the SOVAT was executed. "As Built" diagrams will also be constructed in the final stage of implementation. These diagrams, which depict the exact equipment and configuration of each installed site, will be included in the final documentation presented to GRU.



Network Monitoring and Management Services

Monitoring the network is one of the most important activities of any network owner. We maintain valuable insights into network performance with our in-house network monitoring team at our Network Operations Center (NOC) in Elmhurst, IL. A Similar system will be constructed in Boston. Fast response, spares management and maintenance team would be located in the MBTA service areas. Maintenance and component changes would occur based on our automated remote equipment monitoring. We anticipate that response times to requests made would be less than a few hours.

Network Operations Center

All of this monitoring is managed from our national NOC which has the following major features and benefits:

- Full scale network operations center with back-up systems and physical security in place
- Full backup generator power in case of power failure insures your data and data monitoring continues even in harsh conditions
- Full battery back-up power allows for a second tier of power failure support
- Dual BGP Internet providers allows for a safe failover should one Internet connection lose its service; this insures your data can be monitored since alternate Internet paths are in place
- Redundant firewalls are in place to protect our monitoring and help desk support services from outside attack

- The system is protected by a Cisco 4210 intrusion detection system a state-of-the-art system to track and monitor and respond to external attack

Our personnel are Network Wireless Engineers. All NOC engineers are trained on the radios and systems they support, and in most cases take the manufacturers full certification training.

The NOC is staffed 24 hours a day, 7 days a week. In addition we do have an answering service for busy times or for weekends, if the Engineers are tied up on other calls. A full escalation procedure is in place, if the call or request had not been responded to and we risk missing a required SLA.

Network Maintenance and Upgrade Services

Preventive Maintenance

We will perform Preventative Maintenance, a semi-annual checkup of all equipment cable, and connectors. A good preventative maintenance and monitoring plan can detect problems before they occur. The environment plays a large factor in the health of any equipment that is installed in an exposed environment. Small shifts in alignment and expansion and contraction of weather sealing all play a factor in the performance of the network. Due to these factors, we recommend inspection of the outdoor placed equipment on towers and rooftops at least once a year. The optimum times for the maintenance are in the spring and right before winter. The extreme heat and cold can affect the weather sealing over time. Preventive maintenance on wireless installations is a key factor in maintaining the overall health of the network.

Telephone Support

Included in this service is 24/7 Telephone Support. We maintain toll free numbers available for support service.

Program and Project Management Services

Our team uses the following practices to insure that jobs are done to customer expectations:

1. Kick-off meetings are held for every job with internal resources, subcontractors, and the customer. This aligns everyone to the specifics of that job, and any standards or requirements we must meet. This is a formal process built into our implementation processes.
2. Web portals are opened for each job for all participants on those jobs. This allows all field personnel (including any subcontractors we may give access to) to access the required job information such as forms, standards, and other specific information about that job.
3. Quality Assurance is set up by means of a lead engineer who reports into our Operations Manager on each job. The lead engineer reviews all engineering work, site documentation and test reports, so that when we close a job, we do so with confidence that all documentation and all job details were completed correctly.
4. We use a variety of electronic systems to manage the day-to-day activities of our projects.

Project Management

From our Job Tracking System, our project manager's report will be issued on a weekly basis, each and every open job, managing all phases of the job until they are completed and closed. In addition, for larger jobs, full budget and time tracking is analyzed on a weekly basis. Depending on the project, weekly meetings are set up with the customer.

Scheduling – Master Schedule, in MS Project, provides consolidated resource scheduling for materials and labor. Each project has an associated MS Project Schedule that is linked to the MS Project Master Schedule for resource conflicts and allocation. The MS Project Schedule generates the information for the Service Coordination Staff to allocate resources based on skill sets.
Process Flow Control – Detailed Process Flow control procedures and tracking are in place to properly monitor information, material and labor flow.
Daily Field Reporting – All field personnel are required to produce a Daily Field Report, sent to the Project Manager, to track the progress of each job and identify problem areas that would affect the schedule.
Wireless Tracker – Each detail of every installation is documented and uploaded into our Wireless Tracker System, which then provides a graphical and detailed oriented system for follow on maintenance and monitoring contracts.

RAILROADBORNE MAINTENANCE PLAN

inMOTION will operate maintenance and support operations 24/7/365. We are proposing 2 teams functional at 3 separate shifts operating from North and South Stations. The teams would be equipped with spare equipment to provide the MBTA staff with replacements for suspected faulty components, as needed. All employees would be approved by the MBTA and they would be certified to FRA standards and regulations.

All inMOTION teams would be coordinated from the Network Operations Center in Boston. The Network Operations Center would be in constant communications with the MBTA Operations staff. Such changes would be coordinated and agreed ahead of time. inMOTION engineers would be there to assist only and not to replace equipment. inMOTION Engineers would assist the MBTA staff with technical and IT related questions and to assure that the overall system is working per the agreed performance specifications.

All equipment replacements would be documented and information would be freely shared by inMOTION and MBTA staff.

SECTION P - COMPETITIVE ANALYSIS

EXISTING CELL-PHONE COVERAGE SYSTEM OFFERINGS

- Works with modems that convert existing Cellular signal to a Wi-Fi Access Point
- Limited data throughput
- Single point of failure
- Railcar to railcar connections limiting data throughput to only 70% of actually delivered signal throughput at the "route" railcar
- Could be limited to only 10-20 kbps per user
- Very difficult to hand over mass of users from cell to cell
- Very low quality of service

Not focused on Mass Transit

- Cellular service is a general service to all subscribers and can't assign specific bandwidth between highway, pedestrian or railroad traffic, thus robbing commuters from a true broadband data offering
- Mass Transit coverage areas is an after-thought
- Latest small cell deployments and press releases indicating service to the railroad do not focus energy to the railroad but to all surrounding users (same as previously)

Not focused on busy-hour demands

- Frequent signal drop-outs
- Very difficult to hand-off

Can't customize for the railroad

- Cellular system dictates features and offerings of the system
- Focused, specific applications are developed and marketed from third parties (app developers)

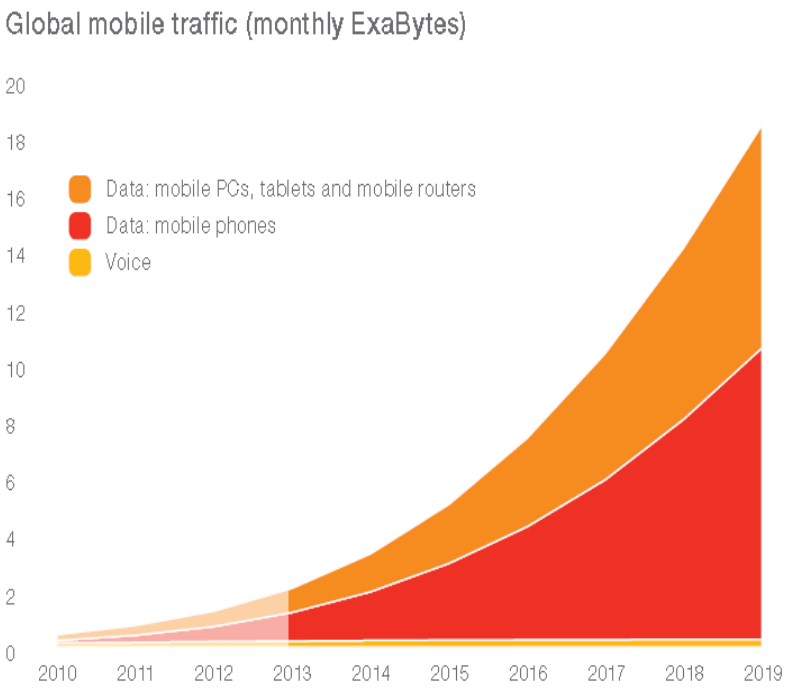
Existing Cellular phone system proponents have been hoping that the introduction of 4G/LTE technologies would finally allow them to offer an "acceptable" level of service. The following data would prove that such claims are not accurate and are the result of unfounded date in an effort to capitalize on a new technology introduction and the anticipation of higher data rates as compared to 3G implementations.

The following data is provided as supporting evidence that a cellular based system design targeting the railroad commuter market can't possibly service the needs of the commuting public or any future plans MBTA might have to expand or add services.

All furnished data has been produced by independent companies such as the Cellular Equipment giant Ericsson on the November 2013 Market Report publication and cellular network measurement Company Open Signal.

We will point out specifically the current coverage areas in the Massachusetts area that focus specifically to the Boston metropolitan area, highways and byways.

TRAFFIC

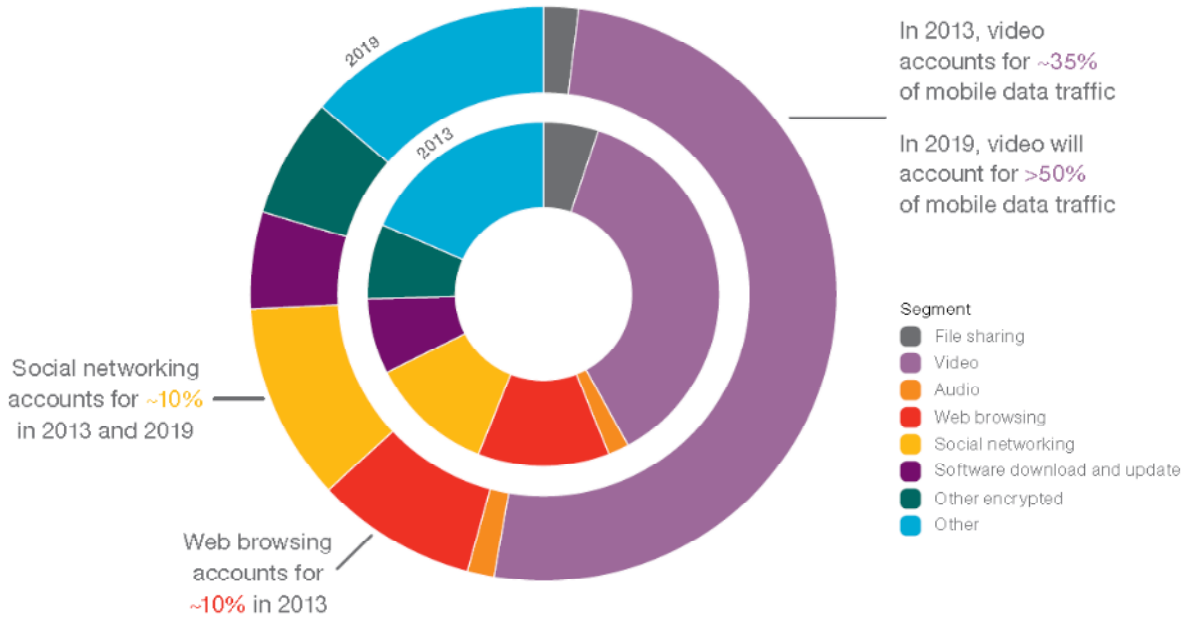


10X

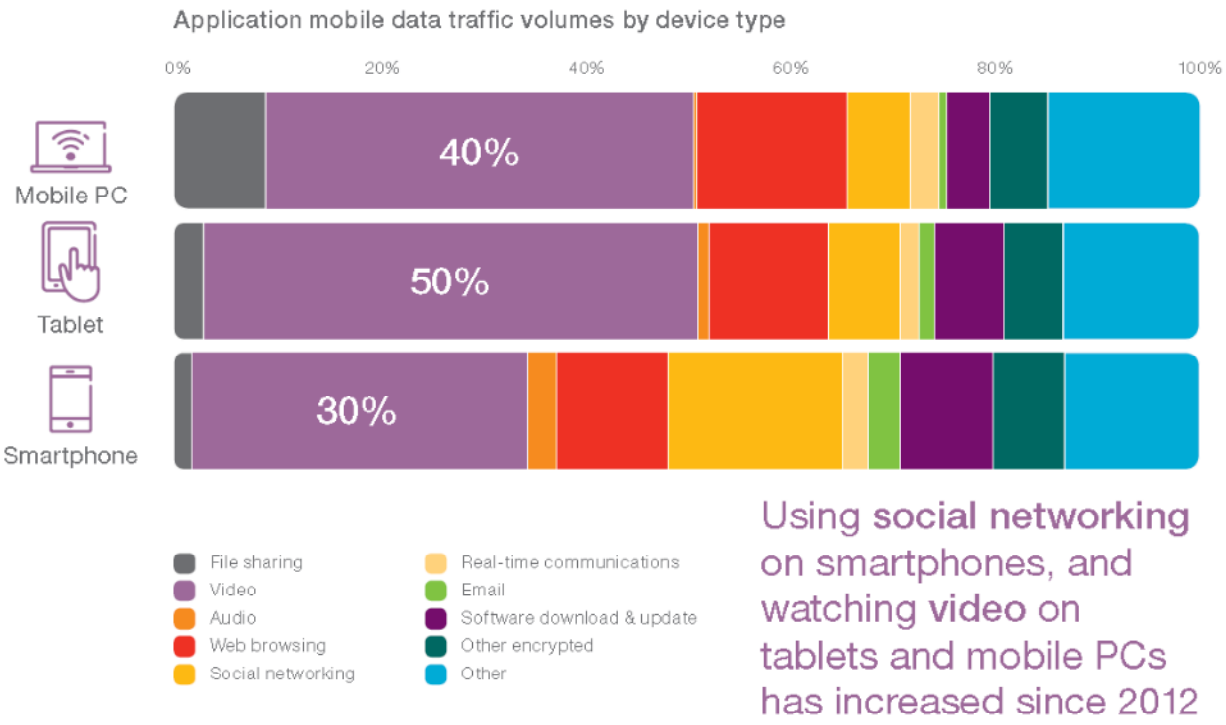
growth in mobile data traffic between 2013 and 2019

In 2013, mobile traffic generated by mobile phones will exceed that generated by mobile PCs, tablets and routers

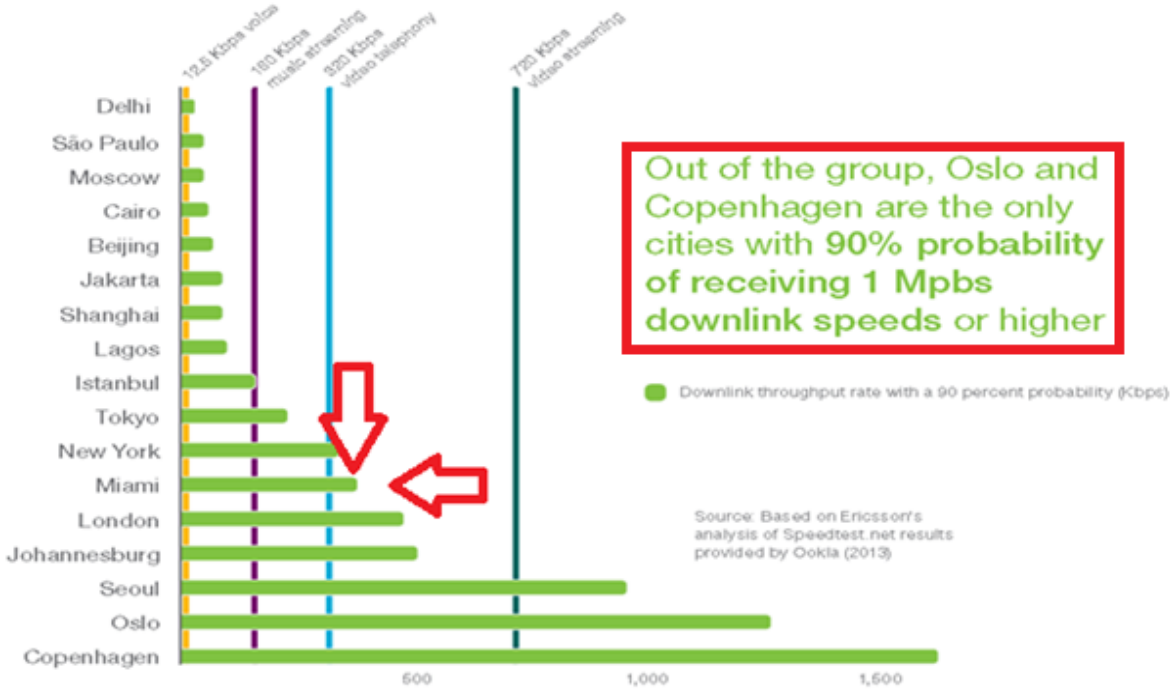
OUTLOOK



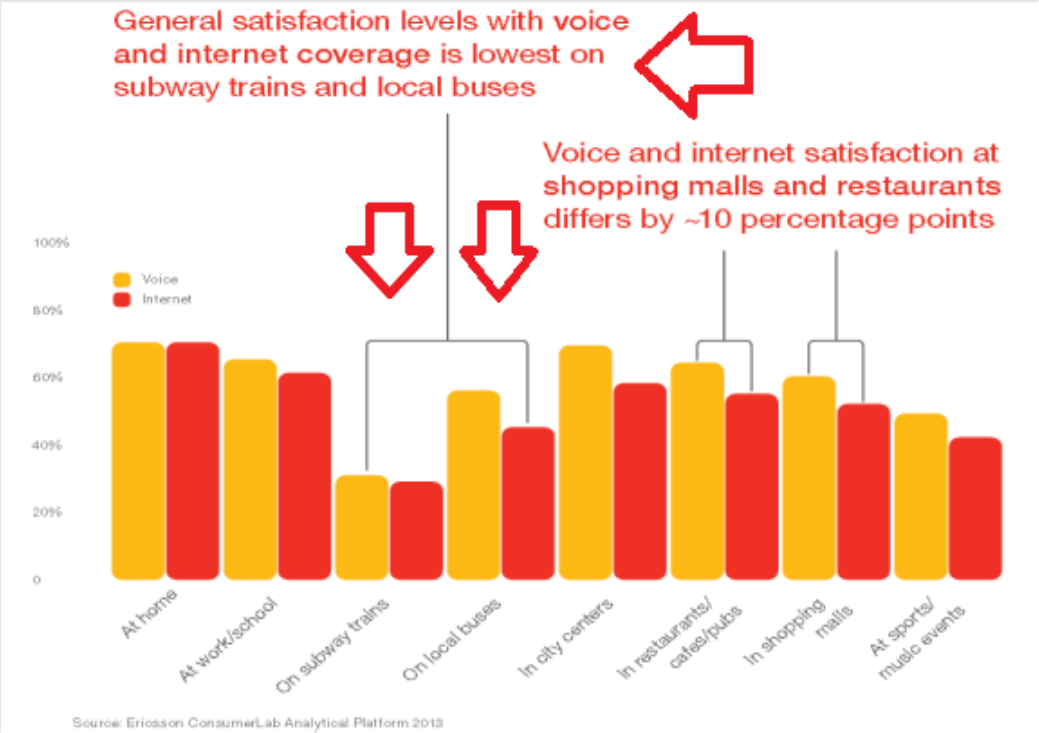
APPLICATIONS



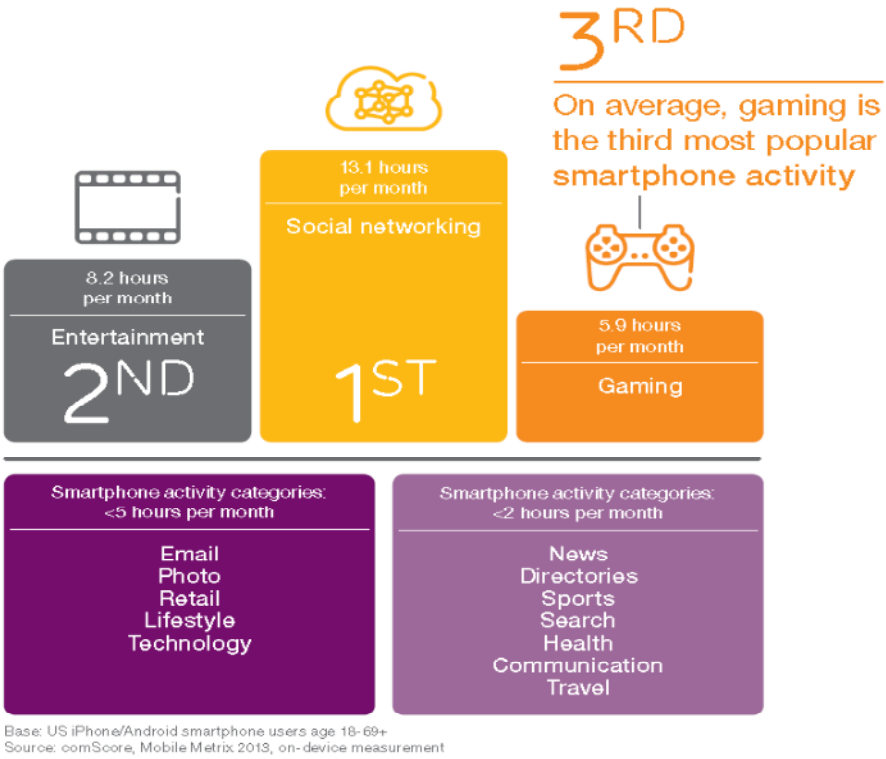
DATA DOWNLOAD SPEED



SATISFACTION LEVELS

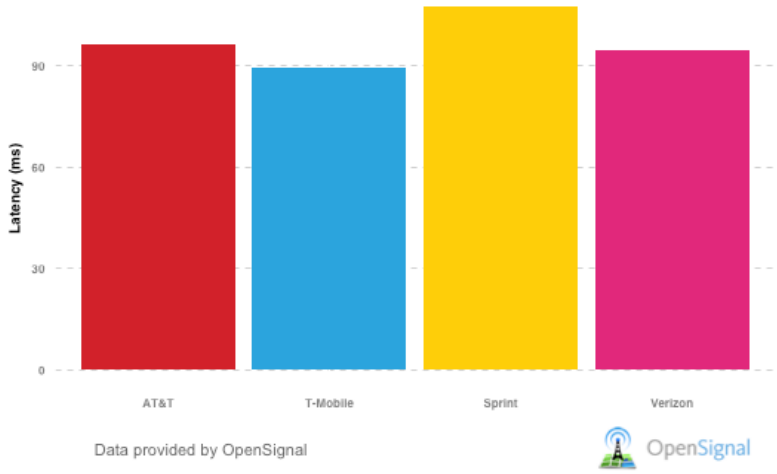


SMARTPHONE USAGES

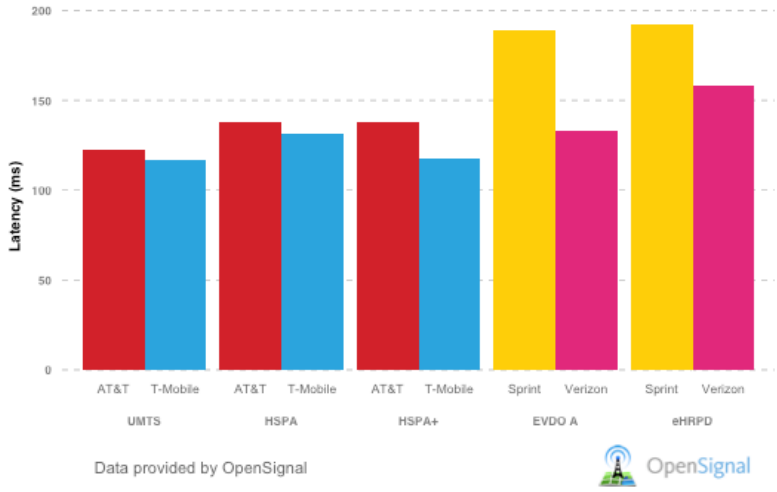


THE BAD NEWS

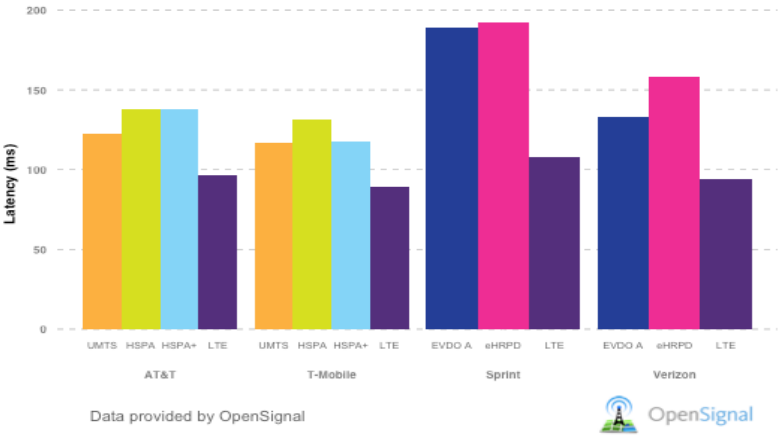
Tier 1 U.S. carrier nework latency in LTE networks in October:



Tier 1 U.S. carrier network latency across 3G networks in October:



Tier 1 U.S. carrier network latency across all high-speed wireless networks in October:



The raw data (October):

Operator	Network Type	Mean Latency (ms)
AT&T	HSPA	137.9376
AT&T	HSPAP	137.7301
AT&T	LTE	96.24045
AT&T	UMTS	122.2991
Sprint	EVDO A	188.8764
Sprint	LTE	107.7518
Sprint	eHRPD	192.5983
T-Mobile	HSPA	131.4028
T-Mobile	HSPAP	117.7695
T-Mobile	LTE	89.39846
T-Mobile	UMTS	116.4344
Verizon	EVDO A	133.295
Verizon	LTE	94.51151
Verizon	eHRPD	157.9791

There are a number of issues that admittedly present major concerns for a cellular telephone based solutions.

1. Latency is greatly affecting the data network performance.
2. Either the MBTA or the Cellular system carrier can't max out the network capacity and focus it to the commuters because the train is not the primary business of the cellular provider. Highway, byway coverage is the priority especially on PEAK hour traffic times!
3. The maximum predicted download speed for LTE in Metropolitan areas (use the Miami data in the Boston area case) is limited. Metropolitan areas are typically served the best. Rural areas are performing to lesser targets, for obvious economic reasons thus LTE coverage does not exist.
4. Delivery method
   Case 1. Wireless Mesh
   a. The data indicates what a single cellular modem based solution (Verizon/AT&T/Sprint) would perform to, for the whole train assuming the networking part between railcars is lossless (currently Cisco data indicates that best system performs to 70% loss of data throughput)!!!

b. If you estimate just 20 simultaneous users on the train then it is averaging out at 400 kbps / 20 users = 20 kbps per user (average of 3 users per railcar, during peak hour). Old 19.2 kbps dial up speed.
c. 70% of the predicted throughput is only 14 kbps!!!

Case 2. Access per railcar (single modem)

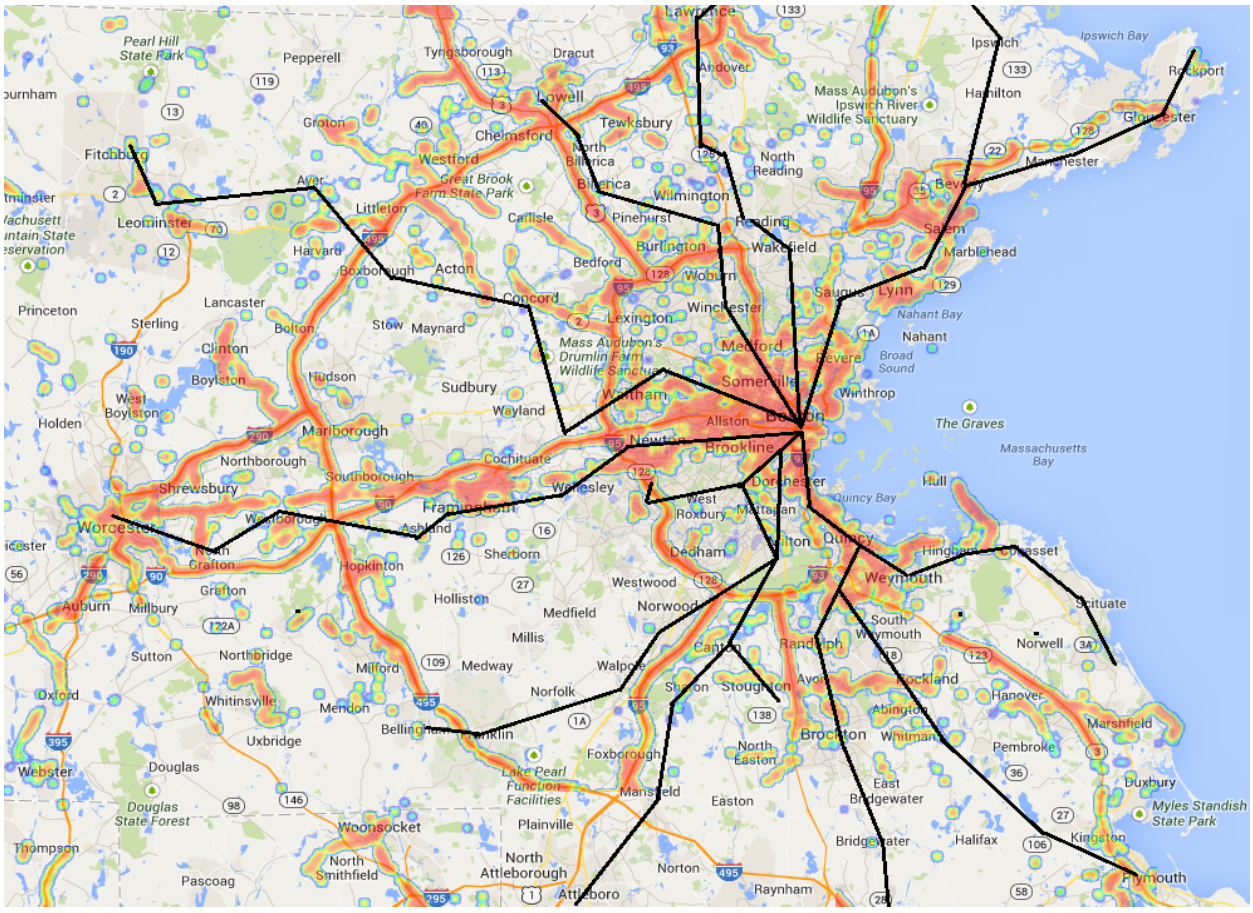
d. The data provided above (Miami) indicates what a single cellular modem based solution (Verizon/AT&T/Sprint) would perform to, for one railcar. If you estimate just 20 simultaneous users on the railcar then it is averaging out at 400 kbps / 20 users = 20 kbps per user. Old 19.2 kbps dial up speed.

5. Measured data indicates that the dissatisfaction percentages related to transportation as a result of the "surrounding" users on cellular systems is noticeably very high.

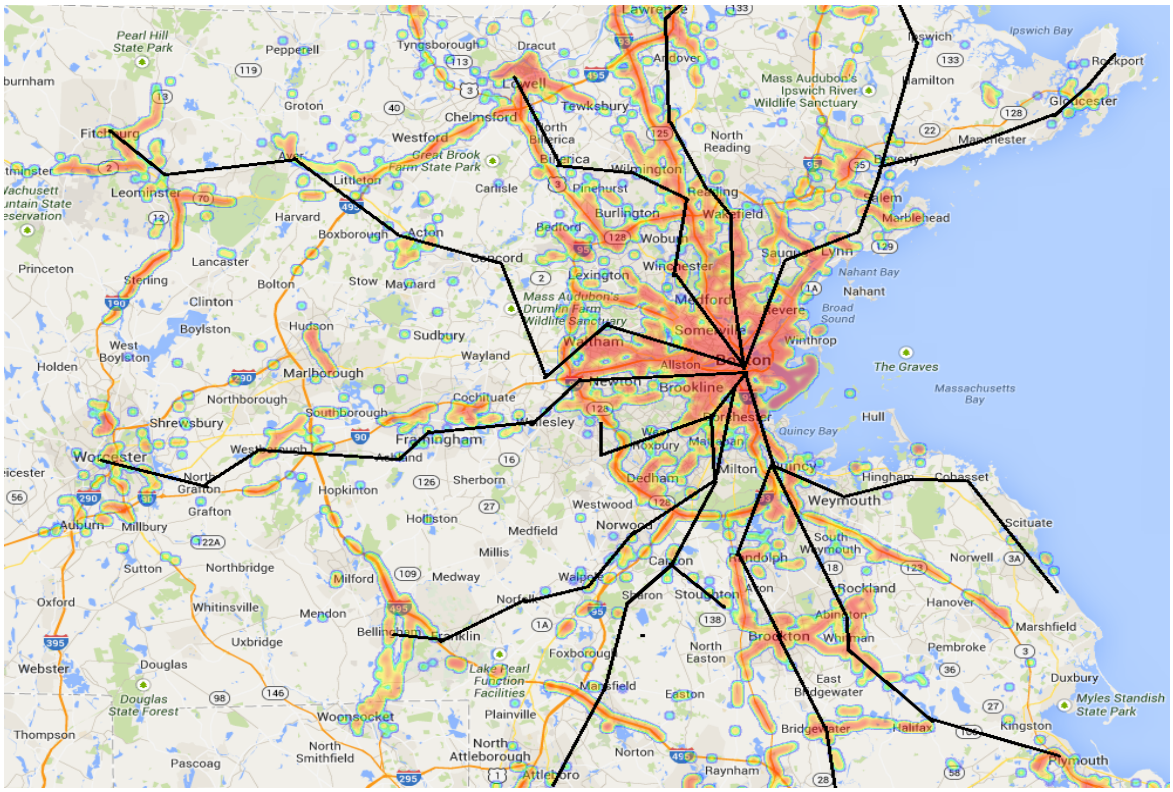
4G LTE COVERAGE MAPS

Below are the latest 4G/LTE coverage maps. The maps indicate coverage and tower locations. It is obvious that coverage is limited in the Boston Metropolitan area but not at the MBTA commuter railroad routes. Coverage outside Boston, concentrate on the highway areas only. More detailed maps are available at: http://opensignal.com/

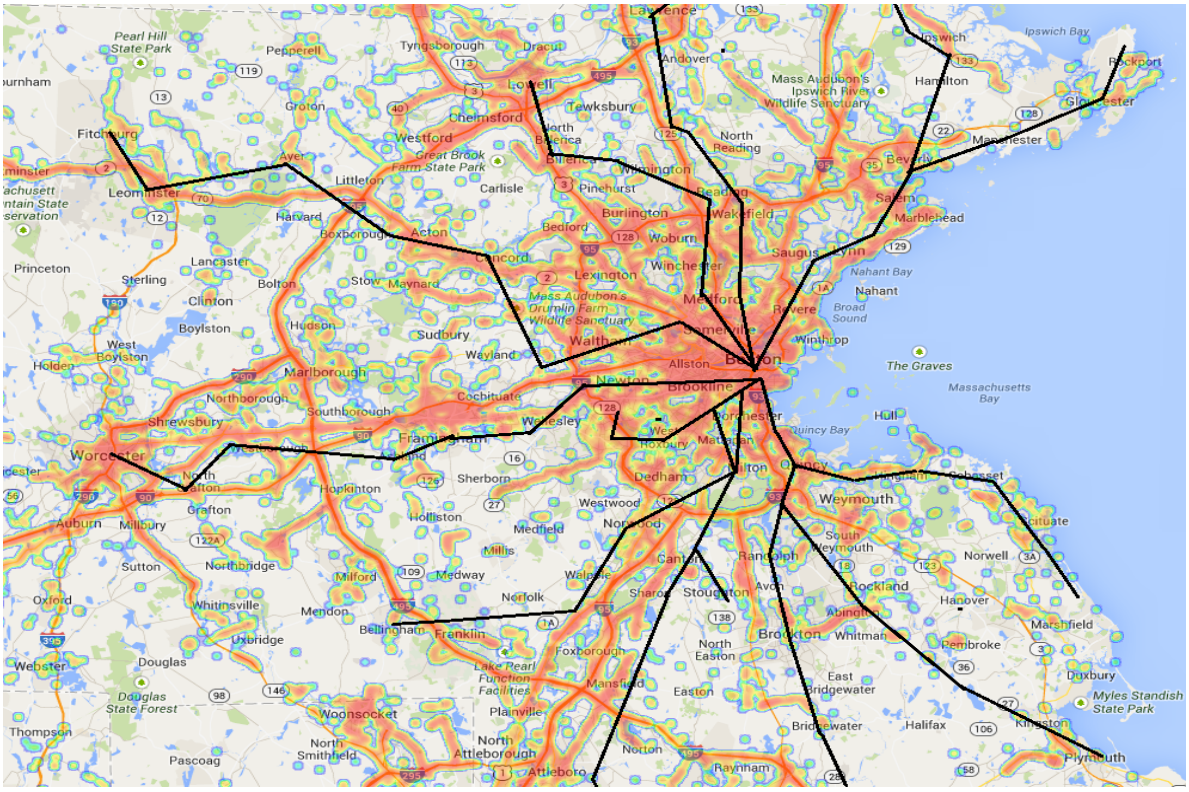
AT&T



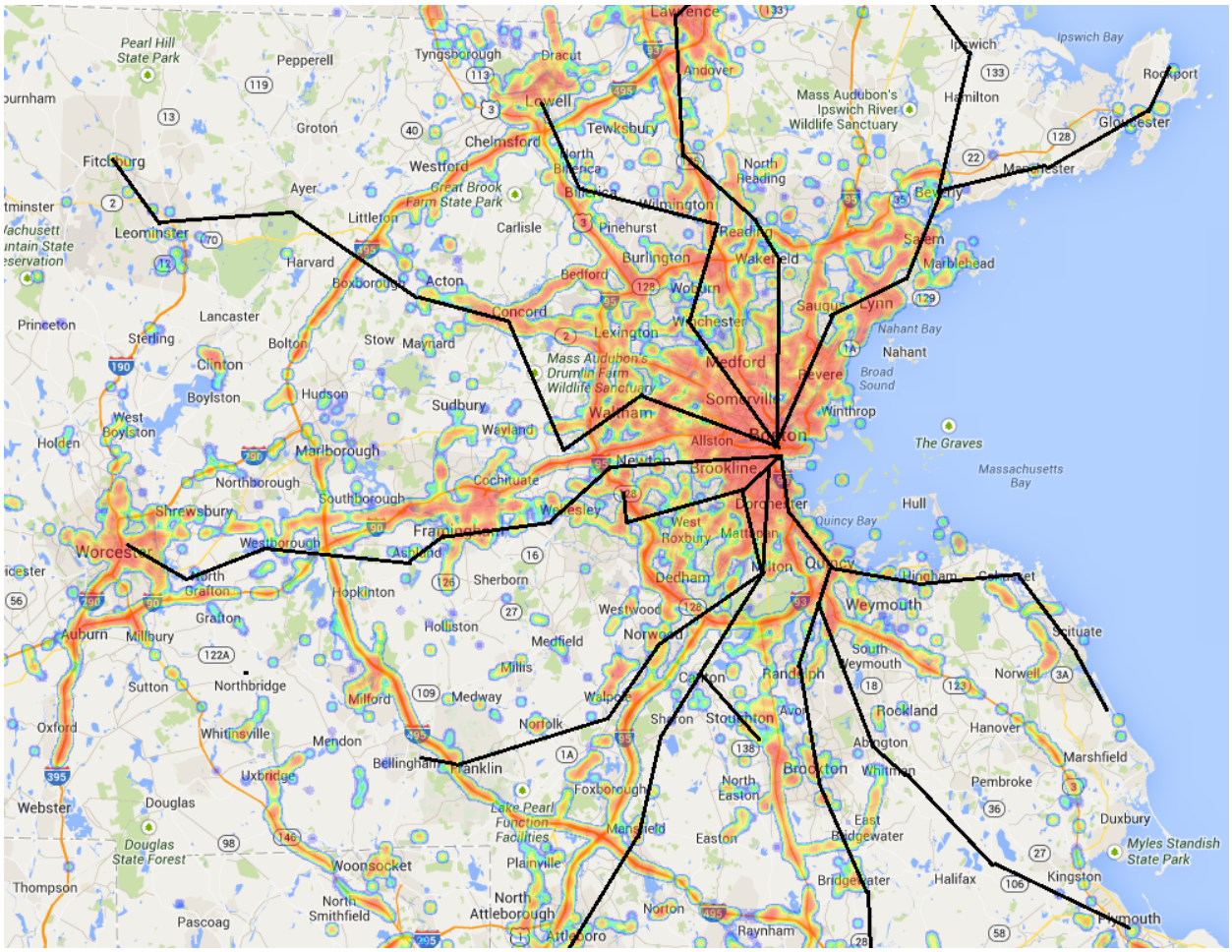
SPRINT



VERIZON



T-MOBILE



Recently Amtrak has announced that services would be offered to Amtrak passengers in the Midwest utilizing 4G/LTE Cellular Telephone Networks. We would point out the truthful admission by Amtrak that such technologies are not capable in offering multimedia services thus Amtrak would “restrict” streaming services to the passengers!!!

The press release is provided below.

News Release

FOR IMMEDIATE RELEASE
Dec. 19, 2013

ATK-13-154
Amtrak Contact: Marc Magliari
312 544.5390
Illinois DOT Contact: Jae Miller
312 814.4693
Michigan DOT Contact: Nick Schirripa
269 337.3927
Wisconsin DOT Contact: Brock Bergey
608 267.3300

AMTRAKCONNECT® WI-FI COMING TO MIDWEST CORRIDORS
Passenger experience improvement with 4G performance coming in 2014

CHICAGO – AmtrakConnect® cellular-based Wi-Fi service is arriving soon on Amtrak trains in the Midwest, with eight corridors offering this free amenity to Amtrak passengers by early February of 2014. Collectively, these routes carried nearly 3.3 million passengers in the last year (Amtrak FY2013, Oct. 2012-Sept. 2013).

Amtrak is now installing the equipment on railcars under contracts with the states of Illinois, Michigan, Missouri and Wisconsin. The Wi-Fi service will be provided on these routes:

Illinois: 1.22 million passengers
Lincoln Service: Chicago-Springfield-St. Louis (expanding to all four round-trips)
Illini/Saluki: Chicago-Champaign-Carbondale
Illinois Zephyr/Carl Sandburg: Chicago-Galesburg-Quincy

Michigan: 1.05 million passengers
Wolverine Service: Chicago-Ann Arbor-Detroit-Pontiac
Blue Water: Chicago-East Lansing-Port Huron
Pere Marquette: Chicago-Holland-Grand Rapids

Missouri: 200,000 passengers
Missouri River Runner: St. Louis-Jefferson City-Kansas City

Wisconsin (contract shared with Illinois): 821,000 passengers
Hiawatha Service: Chicago-Milwaukee

A specific completion date will be announced next month. Passengers on these Amtrak Chicago Hub Service trains will start seeing the availability of the service as the railcars are deployed.

- more -

NATIONAL RAILROAD PASSENGER CORPORATION
Chicago Union Station, 500 West Jackson Boulevard, Chicago, IL 60661-5702 tel 312 544.5390 fax 202 799.NEWS MediaRelationsChicago@Amtrak.com

"Last week, I met with Amtrak Board of Directors Chairman Anthony Coscia and his predecessor and current Board Member Thomas Carper. We discussed continued growth in ridership numbers and how we can maintain that trend," said U.S. Senator Dick Durbin (D-IL), Chair of the Senate's Midwest Passenger Rail Caucus. "Bringing Wi-Fi to these trains will better serve passengers and help Amtrak continue to set ridership records for the region."

"Free Wi-Fi service on Amtrak trains, combined with our ongoing high-speed rail improvements, means passengers will get to their destinations more quickly, comfortably and enjoyably," said Illinois Governor Pat Quinn.

"Wi-Fi is an important additional amenity for passengers on Michigan and other Midwest corridor services. Michigan looks forward to travelers enjoying Wi-Fi and other service improvements as we continue to implement our Accelerated Rail program," said Tim Hoeffner, Rail Director, Michigan Department of Transportation "We are excited to partner with Amtrak and our sister state DOTs on Wi-Fi service as we look for more and creative ways to make train travel a more attractive option in Michigan and throughout the Midwest."

"We are eager to start providing the free Wi-Fi service to our *Hiawatha* passengers through this partnership," said Mark Gottlieb, Secretary, Wisconsin Department of Transportation. "This is part of our commitment to improving the passenger rail travel experience between Milwaukee and Chicago, especially for daily business commuters."

AmtrakConnect capitalizes on multiple cellular providers to provide the best mobile experience possible, taking advantage of 4G technologies where available.

"We are continually looking to improve customer satisfaction, and this service is yet one more way to do so, while also delivering the speeds and connectivity required to maintain a competitive position among transportation providers," said Matt Hardison, Amtrak Chief Marketing and Sales Officer.

Hardison explained that AmtrakConnect is provided at no cost to passengers and has proven very popular – as evidenced by the fact that it routinely supports between 30 and 50 percent of passengers on a given train. As the demand for on-board Wi-Fi continues to grow, and in order to ensure the best experience for everyone, data-intensive activities, such as streaming video and music, and large file downloads that can slow everyone down, will be restricted.

Doing so helps ensure that high-volume data users onboard the trains do not degrade the experience for others.

About 75 percent of Amtrak passengers nationwide already Enjoy the Journey® with free AmtrakConnect Wi-Fi. The addition of Chicago Hub Services will increase the coverage percentage to approximately 85 percent.

About Amtrak®
Amtrak is America's Railroad®, the nation's intercity passenger rail service and its high-speed rail operator. Amtrak and its state and commuter partners move people, the economy and the nation forward. Formally known as the National Railroad Passenger Corporation, Amtrak is governed by a nine member board of directors appointed by the President of the United States and confirmed by the U.S. Senate. Anthony R. Coscia is board chairman and Jeffrey R. Moreland is vice chairman. In FY 2013, a record 31.6 million passengers traveled on Amtrak on more than 300 daily trains – at speeds up to 150 mph (241 kph) – that connect 46 states, the District of Columbia and three Canadian Provinces. Enjoy the journey® at Amtrak.com or call 800-USA-RAIL for schedules, fares and more information. Like us on Facebook, Follow us on Twitter (@Amtrak) and check out our blog at blog.amtrak.com.

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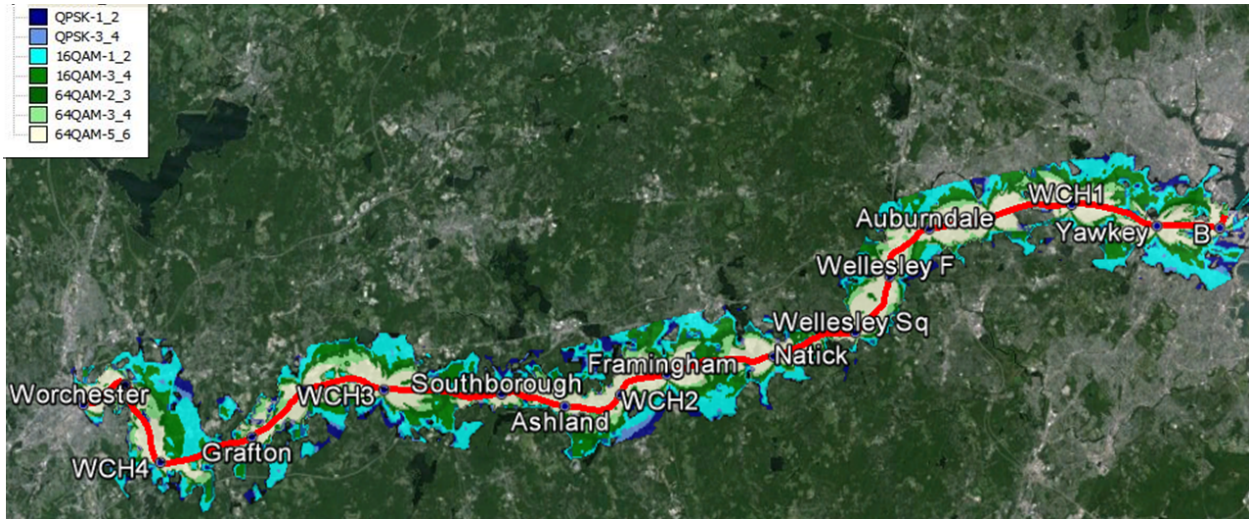
MBTA has been the leader in introducing technologies pioneering Wi-Fi services to the railroad industry in 2008. We believe MBTA can maintain their leadership and visionary approach by introducing newer dedicated to the railroad technologies allowing passengers to enjoy live streaming of services as they are accustomed to in their daily lives.

inMOTION PRIVATE NETWORK SYSTEM OFFERING

The following radio planning system parameters are given per carrier – 15 carriers are available in the lower and upper bands for a cumulative throughput of 765/2 = 382 Mbps per fully loaded station.

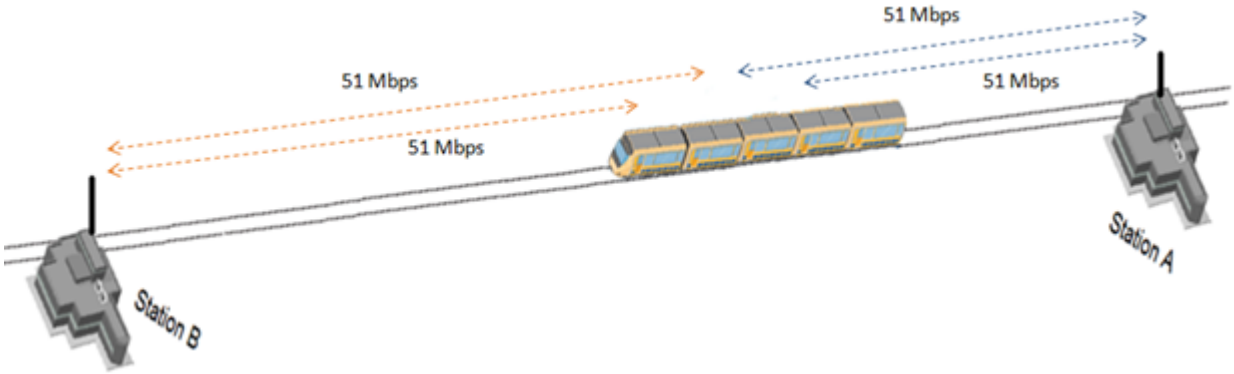
Channel Bandwidth (MHz):	10
Frame Split:	35/12
DL MIMO Mode:	Matrix B
Compressed Maps:	Enabled
Range Configuration	Normal
FFR	Disabled
FFR Factor	1/3
DFS	Disabled
Ranging Period (frames)	8

	MCS							
	QPSK		16QAM		64QAM			
FEC code	**1/2**	**3/4**	**1/2**	**3/4**	**1/2**	**2/3**	**3/4**	**5/6**
Modulation Factor	**2**	**2**	**4**	**4**	**6**	**6**	**6**	**6**
Downlink Combined (Mbps)	**9.2**	**13.8**	**18.4**	**27.6**	**27.6**	**36.9**	**41.5**	**46.1**
Downlink R3 (Mbps)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Downlink R1 (Mbps)	**9.2**	**13.8**	**18.4**	**27.6**	**27.6**	**36.9**	**41.5**	**46.1**
Uplink (Mbps)	**1.0**	**1.5**	**2.0**	**3.0**	**3.0**	**4.0**	**4.5**	**5.0**
Total (Mbps)	**10.2**	**15.3**	**20.4**	**30.7**	**30.7**	**40.9**	**46.0**	**51.1**



Given the same parameters analyzed above for a cellular based system (20 simultaneous users on a railcar) as compared to a private communications network advocated by inMOTION the following

throughputs would be supported.



Each railcar receives a signal from an independent Station A or B. There is a high probability of a train consisting of 6 railcars (peak traffic) to share its throughput with each of the stations in line of sight with the train of interest.

Each of the railcars would receive 51 Mbps / 20 users = 2.55 Mbps per user per radio frequency carrier utilized at the specific station. Given that there are at least 7 radio frequency carriers available (N=2 reuse), the maximum throughput per railcar would be 153 Mbps (or 7.65 Mbps per user assuming symmetrical data distribution for all users, for simplicity purposes). Given the probability that railcars receive data signals from both stations (A or B) the data throughput would double.

SECTION Q - RAILCAR AND FERRY BOAT FUTURE OFFERING

1. Train equipment installations
   inMOTION would configure quick connect/disconnect kits to assist in easily configure and speed installations. We anticipate that MTBA would be performing the installations and power hook-ups. inMOTION has over 15 years of airline installation experience, in similar applications, and we would utilize these well defined techniques to deploy such systems on overnight installations fleet wide.

2. Overnight installations only with pre-configured, pre-tested kits to minimize down time and speed installations.

The inMOTION system would be compatible with and would be offered with the following features:

1. On-board ticket sales systems capable of transmitting data over the Wi-Fi wireless system.
2. Train diagnostic information transmitted over wired or wireless methods compatible with Ethernet protocols or Wi-Fi wireless protocols. Interface connections, protocols and physical connections are TBD.
3. Homeland Security requirements

The architecture for the homeland security/monitoring will include:

- On-site subsystems to sense the security violation and alert the video surveillance system.
- On-site video surveillance systems, if alerted, to direct surveillance camera to the scene of security violation and start capturing of the incident scenes.
- On-site processing systems to aggregate the on-site surveillance systems and intelligently communicate to the homeland security service center. It can also fall back to text only message if the available bandwidth of the communication system falls below the configurable threshold.
- Communication system among security center, security surveillance system, and on-board conductor.
- Homeland security center
    - Authentication and authorization
    - Automatic incident processing and dispatching
    - Security officer command and control interface
    - On-board conductor user interface
    - Interface to emergency response system
    - Interface to law enforcement system

The system must encompass a range of security and surveillance requirements:

- Multiple location video monitoring
- Possible Motion detection for Rail Grade Intersections and emergency alarms integration
- Linkage to external data bases
- Automatic alerts and notifications
- Controlled user access from a security management center or software
- Networked with Mobile Network for global expansion
- Remote access with shared supervision
- Intelligent queries of stored digital images

SECTION R – MARKETING PLAN

Electronic Media Advertising is HERE, HOT and the WAY OF THE FUTURE! Advertisers are using the speed of technology to deliver promotional information to consumers in "real time". Consumers have become "information junkies" desiring information "now". Gas stations, elevators – even rest rooms at bars and restaurants are all talking to consumers through digital multi-media television. There are the ads on the log-on (splash) page, there are options to gain sponsorship (e.g., this session paid for by company "X", or discount by clicking here), and there are comprehensive provisions of advertisement that include on/off-train and media outlet purchases that are bundled with the service or sponsorship of the internet service. Location based advertising is a natural fit with a passenger rail service where advertisement information can be coupled with the services available at or near the station stop. In addition, combined with market research based on aggregated ticketing and origin-destination data, location based information could prove to be an effective and informative enhancement to revenue.

In short, Advertising Revenues will be enormous. Product and service companies are starving for new ways to reach the most popular demographic group in the world... **The RUSH HOUR Commuter!**

ABC, ABC Network, Disney and Hearst Corporation will be the content providers for all aspects of Advertising, promotion, and representation to build an Advertising Revenue model that will generate newfound profits back to MBTA rail system. ABC is committed to be the first media organization to build a Television Station within a Television Station by dedicating separate staffing to include local and national advertising sales reps, Director of New Media Sales and Traffic Maintenance, Inventory Management and billing staff. This division will work with ABC's existing media agency partner giants like StarCom, Outdoor Media Group, Group M, MPG, Universal McCann, Optimedia and Destination Media Group and will offer exclusive advertising sponsorship opportunities.

inMOTION's content partners have conducted a thorough market analysis of existing Out-of-Home valuations of various advertising media platforms including but not limited to digital billboards, conventional digital signage, Pump Top TV, Taxi TV, and Captivate (elevator space ads). Digital billboards and signage are currently drawing an average industry rate of $15 CPM, while the other more contemporary sources like Captivate are drawing CPM's as high as $20. The key value factors include the eye-catching ability of digital color imagery and most importantly – the ability to hold the attention of a "captive audience" for a specific period of time where they are left with little or no other options to capture their attention. As an example, the average time spent in an elevator is a mere eleven (11) seconds with nothing more to do than stand in place. Yet Captivate advertising models boast among the highest today selling advertising space at a whopping $20 CPM!

Our valued content model will provide LIVE programming to trains 24 / 7 / 365! Since there is currently no other technology and media platform available in the world to establish a new CPM value of at least $20 CPM or more, our financial model conservatively utilizes a modest CPM of $7. See "Pro-Forma Financial" section for more details about assumptions for CPM values and Total Revenue model.

We are planning to Stream high-value ABC media content to MBTA passengers utilizing their smart-phones, tablets and laptop screens. High-value media content can be defined as sporting events, news, financial markets and other consumer interest spots.

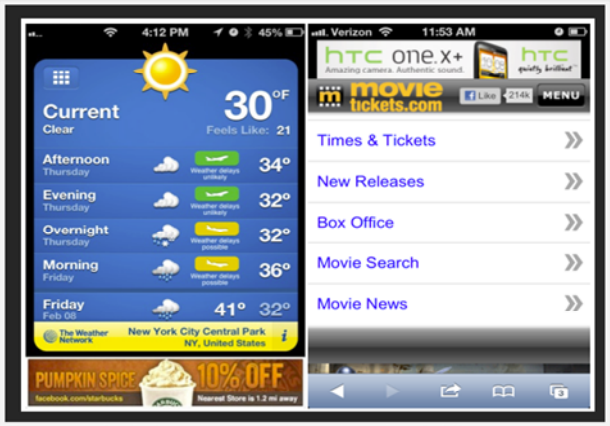
Commercial offer to MBTA

1. Since inMOTION is financing this project 100%, there are no licensing fees proposed to be paid to MBTA. Instead, inMOTION is proposing a revenue sharing method, in exchange for the right to install the equipment and provide the Wi-Fi and live entertainment services over an extended period of time. It is proposed that MBTA share 7.5% of the NET revenues produced from all revenue sources.
2. It is proposed that Wi-Fi services would be available for free up to 300 MB data transactions per month per subscriber or $12-$15 per month unlimited data access. The service would be available on stationary and moving platforms and at all lines. Other tariffs would be available, such as daily or weekly access passes. Live Television services would be free to all passengers. Audio services would be delivered with the use of smartphone devices carried by the passengers as to not disturb and for noise "pollution" purposes.
3. inMOTION is proposing a hybrid Wi-Fi and entertainment model that can't be separated as a model. Therefore, data transmitted over the network for all such purposes where accounted for as part of the service offering. No surveillance traffic was accounted for cameras or storage of such feeds and such services would be provided for additional fees.
4. There would be no dedicated bandwidth for MBTA. Best efforts would be given to accommodate needs for "real time" transmission with the exception that an over-ride would occur in case of an emergency where MBTA would be given 100% of the bandwidth for emergency purposes.
5. The inMOTION system would be offered from day 1 with full features. The system would be upgradable to future standards within two years of commercial equipment availability to the newest standards available. All revenues produced from any services (current or future) would comply with the revenue model listed above in paragraph 1.

How to monetize location

1. **Track actions of the users**
2. **Leverage local relevancy & geo-targeting in mobile display strategies**
3. **Target mobile display Ads based on user profiles & preferences**

- **Local/contextual ads on apps:** contextually and locally relevant display ads could generate meaningful revenue because of the focus and scale of the mobile users.
- **Offers:** coupons in display ads or in the news feeds will be quite successful. A "wallet" will be created for mobile offers that resides within the app but doesn't interrupt usage.
- **Mobile loyalty:** For Internet subscribers we will create a subscription based program where loyalty incentives are distributed online and in mobile: "After three visits, XYZ is free."
- **inMOTION credits:** Turning inMOTION credits into a real (loyalty) currency that can be used for e-commerce online or perhaps in the offline world at stores and restaurants.



Two examples of mobile display ads: left example incorporates a call to action/offer and local content; right example is focused on branding.

Financing Plan

Digital advertising has also been successful enjoying high advertising rates, “viewership” and spot “loading”. Smartphone and laptop/tablet digital advertising has been as successful generating revenues as live television. We believe our innovative system with live programming and experience in selling smart-phone advertising would be a very successful venture.

Upon downloading and installing the smart apps from inMOTION’s Web page, commuter rail passengers would receive access to advanced features such as: Live Video streaming (free service), magazine articles ((free service), Internet Access (subscription service), Email and VPN (subscription service), Social media applications focused on the commuters and specific line of travel (free service), Location Based Services utilizing the natural boarding/disembarking destinations (free service), Real time travel information (free service), Live Train Camera to view progress of the train (free service), Train scheduling (free service), Train live progress viewing (free service), Smart-phone payment (free service) and other interactive features.

SYSTEM FEATURES

The inMOTION system was designed to offer: Exclusive frequency usage with patent pending technology, “true” broadband experience – no cellular based Mi-Fi implementations, smart phone/laptop/tablet access, display high quality live video broadcasts to the passengers on LCD displays where applicable, allow for Smart phone/laptop/tablet multimedia interactivity, allow for surveillance and installation of Digital cameras for increased safety and security, a Private communications channel to the railroad offers system redundancy to existing Railroad systems

inMOTION would be offering free broadcast services such as: Local News, Financial and Sports. Broadcast media would be sponsored via a 30 second advertising spot when a passenger accesses the service. Financial projections assume 10 advertising views per passenger per day at a CPM rate of $15 in Year 5. Commuter rail passengers are a captive audience that can be unobtrusively utilized as a source of consumer behavior and opinion. While there is certainly some sensitivity to using viewing information, the coupling of non-personalized data (e.g., origin-destination data, programming choices) market research, and location based advertisements could become a rich source of data that is a potentially viable source of revenue, especially when blended with advertising opportunities.

Captivate Networks is a company providing advertising supported news services to elevators. With screens in the elevators of about 1,000 office buildings in North America, Gannett Co.'s Captivate Network generates about 36 million impressions a month. Captivate Network’s revenue assumptions of a capture audience for 2 minutes in an elevator, per day, would be still less as compared to inMOTION’s 60+ minutes captured audience per trip with nearly half billion impressions a month. Captivate’s 2013 annual revenue exceeded $65 million, at an average CPM price of $14.95. inMOTION’s additional revenue stream is derived from unlimited Wi-Fi access. Pandora has been able to capitalize on a similar product offering with reported quarterly revenues of $172 million.

To achieve such goals inMOTION has secured investment and debt financing from several well respected Capital management firms in the amount of $35.8 million dollars. TG Quantum has been a partner of inMOTION and a strong advocate and believer of the railroad transportation model since the formation of the inMOTION.

Commuter Services Plan

Wi-Fi

InMOTION is access provider neutral. We have no interest in specific brands or providers. We would incorporate roaming agreements with all cellular, ISP, and Cable providers in the Boston region or national brands to accommodate and open our Railroad specific network to other marketing avenues and we would offer services to all passengers on their own accounts as well. Our goal is to maximize revenue for the Company and MBTA without "holding hostage" passengers that do not want to participate to "specific brands" and "bundled" fees.

Our offering to the public is free of charge up to 300 MB per month. Charges would be assessed for accounts exceeding 300 MB per month as follows:

Our rates would include yearly, monthly, weekly and daily access charges.

$120 per Year paid in advance
$12 per Month
$8 per week
$5 daily pass

Live TV

inMOTION has partnered with the Number 1 Television station in Boston WCVB channel 5 and has a 10 year exclusive agreement with the ABC National Network.

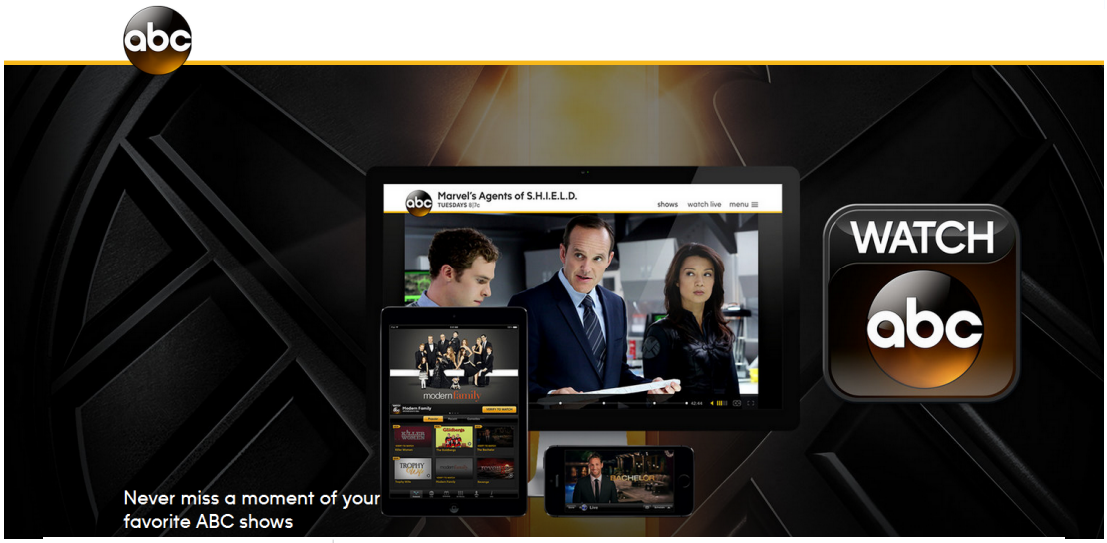


The Walt Disney Company

Media Networks

Disney | abc Television Group	ESPN	abc entertainment group
Disney/ABC Television Group	ESPN	ABC Entertainment Group
abc NEWS	abc owned television stations	abc family — a new kind of family
ABC News	ABC Owned Television Stations Group	ABC Family

Disney Channels Worldwide



HEARST corporation

Hearst Corporation includes some 200 businesses in more than 100 countries around the world.



newspapers >>	*magazines* >>	*broadcasting* >>	*entertainment & syndication* >>
Hearst Newspapers owns 15 daily newspapers, including the *Houston Chronicle*, *San Francisco Chronicle*, *Albany Times Union* and *San Antonio Express-News*.	Hearst Magazines is one of the world's largest publishers of monthly magazines, with 20 U.S. titles and more than 300 international editions.	Hearst Television Inc., formerly Hearst-Argyle Television, comprises 29 television and two radio stations in geographically diverse U.S. markets.	Hearst Entertainment and Syndication includes the Company's cable network partnerships, television programming activities, and newspaper syndication and merchandise licensing operations.
ventures >>	*business media* >>		*real estate & other operations* >>
Hearst Ventures makes strategic investments in companies operating at the intersection of media and technology, and is a conduit for bringing leading-edge intelligence and partnerships to all parts of the company.	Hearst Business Media operates more than 20 business-to-business information services, electronic databases and publications.		Hearst Real Estate & Other Operations includes Hearst Realties, San Francisco Realties, San Simeon Ranch Division, Sunical Land & Livestock Division and Hearst Service Center.

ENHANCED OFFERING

P3 Global Management Inc. (P3GM) creates Public-Private Partnerships, enhancing the livability of cities through continuous innovation. P3GM provides the capital and management expertise to increase the value and performance of municipal infrastructure assets by investing in transformative energy, transportation, communications and safety technologies. InMotion has selected P3GM to enhance and integrate the connectivity created by the MBTA Wi-Fi development project. All of P3GM's capital deployments and investments are cost neutral to MBTA. P3GM recovers their investment through new and enhanced revenue streams as well as cost savings. In summary P3GM can expand the reach of the Wi-Fi project by outfitting the right of ways and other MBTA property with:

- Smart LED platform, parking and building lighting with sensory applications
- Communications
    C. Interactive Way Finding Kiosks
    D. Sponsorships, Branding, Digital Media, Pole Banners
- Machine-to-Machine (M2M) Networking and Data Analysis.

P3GM believes that cities and transit agencies, just like private sector business, face competition from one another every day. Today's cities are constantly competing for new jobs, new corporate headquarters and increased citizenship, all of which allow cities and the surrounding environs to generate additional revenues. Entities that recognize the need to integrate new technologies into existing infrastructures will successfully separate themselves from the competition. The challenges these forward thinking cities and transit agencies face include: the enormous scale, technological complexity and continuous costs associated with such projects. P3GM's unique proposal is to work alongside InMotion and the MBTA as partners by recognizing both near-term and long-term trends in technology and communications that unlock real value; enhancing the rider experience.

SECTION S - CUSTOMER SERVICE

It is inMOTION's intent to provide unmatched customer service, broadband access while maximizing and sharing some of its revenue streams with the MBTA. inMOTION will monitor individual activity with the utilization of diagnostics tools as described in previous sections. Quality of Service would be tiered to Internet and streaming broadcast services.

Roaming agreements are easy to execute among providers. The Wi-Fi Alliance has blanket agreements that are easy to administer and execute.

inMOTION would have blanket roaming agreements with the majority of Wi-Fi providers upon the initiation of the MBTA fleet wide contract.



Our solution utilizes a pre-integrated, end-to-end LTE based technology to greatly reduce time to market, deployment costs and risks. Our product solution is built on industry standards (802.16e) and is in deployment worldwide for leading providers such as Digicel and France Telecom thus, it provides a mature, high-performing product designed to capitalize as it exists today and as it evolves in the future.

Solution Highlights:

- ***A Complete solution*** with comprehensive network & business components. A pre-integrated solution reduces time to market as well as deployment costs & risks.
- ***Convergent Charging & Billing*** enables the utmost flexibility across all services and account types, allowing for a single account balance and real-time charging & billing to ensure zero leakage.
- ***Compliance to Industry Standards*** includes LTE Forum, IETF, OMA, 3GPP.
- ***Successful IOTs & Deployments with Leading AAA & ASN-GW Vendors*** including ZTE, Cisco, Huawei, Alcatel Lucent and Alvarion, ensure a smooth and rapid deployment as well as proven interoperability.
- ***Scalable, Future-Ready Platform*** supports new technologies and growth without costly upgrades or replacements to core network.
- ***End-to-End Device Management,*** performed by the OMA DM Server, includes support for Over-the-Air (OTA) provisioning and firmware updates (FOTA), creating an automated and intuitive activation process. A hands-off, automated customer experience increases customer satisfaction while reducing the operational costs and burden on customer support centers.
- ***Voice Services*** are possible with PCRF, ensuring a guaranteed QoS. Our Online / Offline Charging System features advanced rating options for voice services, and the Number Management and Inventory Management modules make it easy to allocate and manage phone numbers and devices.

Billing

The comprehensive billing platform supports a wide array of services and business models. Feature highlights:

- Any service future-friendly architecture
- Recurring plans in arrears & in advance with proration automation
- Flexible billing cycle management
- Usage and metered plans using a flexible rating engine
- Simple switching to/from Prepaid plans, and Credit Limit enforced postpaid plans
- Promotion engine
- Discount engine
- Invoicing with: XSL formatting, flexible aggregation, threshold, electronic invoice delivery
- Taxes
- Built-in mediation
- Accounts receivable & dunning polices enforcement through hotlining
- Integration with major Financial and General Ledger systems
- Electronic Bill Payment and
- Fulfillment based invoicing

Online / Offline Charging System

The 3GPP-compliant Online / Offline Charging Solution (OCS / OFCS) enables real-time rating & charging across all next generation services and access technologies, both IN and IP-based. A key element of an LTE Evolved Packet Core (EPC), the OCS / OFCS terminates the Gy (online) and Gz (offline) interfaces towards the PDN GW as well as Ro, CAMEL and MAP interfaces towards Pre-Release 8 network elements.

Enterprise / Agent Portal

The Enterprise Agent portal supports role-based permissions with fine grained control over module- and field-level access. This allows for a more secure system that focuses an employee's work scope and reduces error. While the system includes predefined roles by default, all roles and permissions are fully configurable using a permissions management interface.

The Enterprise Portal interface is built on an open SOA architecture with identical integration points for external and internal systems, allowing operators easily integrate with external systems. A true separation of business logic and presentation makes it easy to customize the look and feel of the front end without impinging upon the back end system.

Product Features:

- ***Based on Industry Standards,*** the administrative portal is compliant with TM Forum standards, JSR-286, ensuring a comprehensive, robust solution.
- ***Role-based Permissions*** create a hierarchy of administrative rights to ensure a secure system that reduces preventable errors. The portal also includes an audit trail to track changes to any object. Predefined, default roles include:

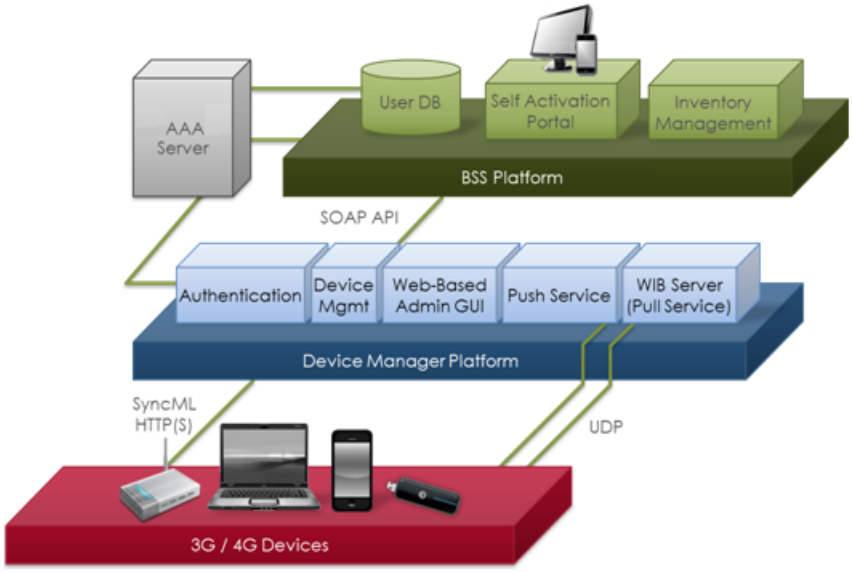
  - Sales
  - Technical Support
  - Customer Service, Billing & A/R
  - Reporting (NOC)
  - Affiliates (access limited to own customers)
  - Product & Offer Management (Marketing)
  - Co-Administrators
  - Super Admin
- ***360 Degree Customer View*** makes customer management a breeze. Customer service agents can quickly search for customers based on any account detail and can view and perform all required actions from one, centralized profile.
- ***Point-and-Click Configuration*** makes it possible to manage the system and design business plans & offers without technical or coding knowledge. This reduces time and error, and heightens the speed and efficiency of customer service agents when assisting customers at customer service centers and over the phone.
- ***Flexible & Customizable,*** the portal supports custom theme and language packs, role-based permissions, and drag-and-drop layout changes, allowing agent and IT administrators to easily personalize the user interface and enhance productivity.
- ***Automation*** is a key design element of the system, on both the front and back end, to reduce operational expenses and allow system administrators to allocate their resources elsewhere.

OMA DM Server

The OMA DM Server is a comprehensive device management system that eases and automates the end-to-end management of next generation devices, including smart phones, MIDs, Wi-Fi access points, Femtocells, Microcells, 3G/4G routers & CPEs, by enabling the provisioning, bootstrapping, activation, configuration changes, and firmware updates of devices over the air (OTA).

Product Features:

- ***Over-the-Air (OTA) Provisioning & Firmware Updates (FOTA),*** as specified by OMA and the LTE & WiMAX Forum, allows for automated provisioning and updates of devices without any required manual intervention by the customer or customer service agent. The OMA DM Server includes a built-in Firmware Update Management Object (FUMO).
- ***Web-Based Administrative Interface*** makes it easy to schedule firmware update campaigns, generate factory settings for OEMs, monitor device updates and provide remote customer support.
- ***Self-Activation*** via the Subscriber Portal makes for a simple and intuitive activation & registration process. From this portal, current subscribers can easily pair a new device with an existing account over SMS. In one activation scenario, a customer switches on a new device, the device is provisioned OTA by the OMA DM Server, and the customer is automatically redirected to the Subscriber portal to register for and purchase services. Once completed, the customer may begin using services instantly, avoiding any device configurations, resetting or calls to a help desk.
- ***Industry Standards-Compliant Solution,*** the OMA DM Server is based on Open Mobile Alliance (OMA) and LTE or WiMAX Forum specifications, including OTA provisioning, making it highly compatible with major device manufacturers.



Existing Companies using the same Billing and Customer Management System

- Digicel
- Charter Communications
- France Telecom
- Halliburton
- IBM
- LINKdotNET
- Maxcom
- Netia
- Orange
- Pemex
- SuperOnline
- Surewest
- Telecom Malaysia
- Telkom
- TM
- Turkcell
- UNISYS

SECTION T – NEW TOWER INFRASTRUCTURE

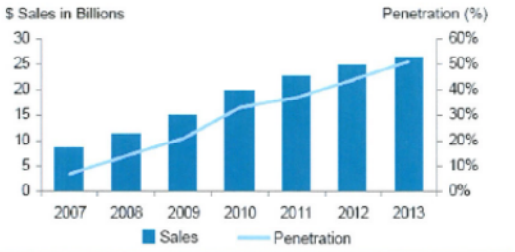
Outlook for Tower Demand

Massachusetts Bay Transportation Authority

Data Usage vs. Basic Phone

Smartphone	=	X 24
Handheld Gaming Console	=	X 60
Tablet	=	X 122
Laptop	=	X 515

Smartphone Demand



Aggregate Data Traffic Growth



Wireless Revenue Forecast

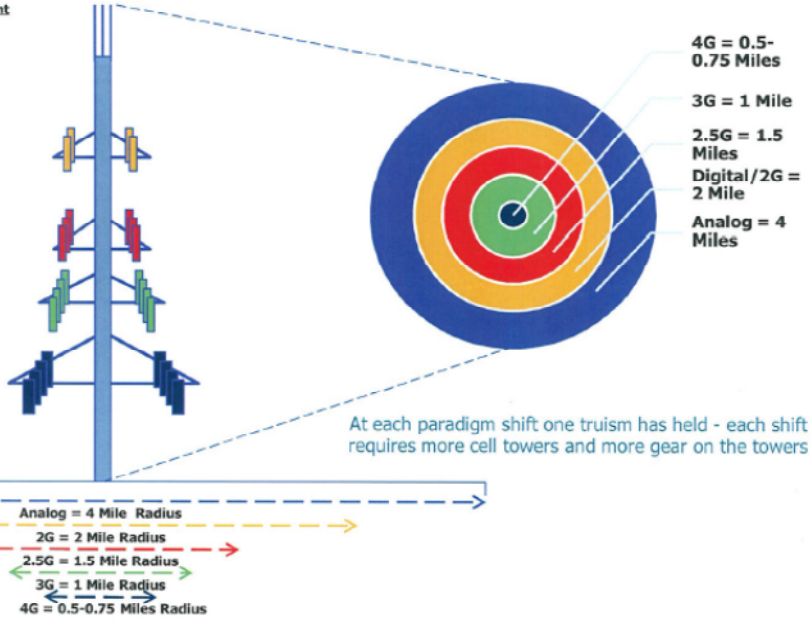


Source: Cisco Visual Networking Index, Wall Street research, SAL Kalgan, Gartner, Federal Communications Commission,

Migration to 4G/LTE

Massachusetts Bay Transportation Authority

Technology	Year	# of Antennae	# of Cell Sites (K)	Height
Analog	1994	3	50	200
Digital 2G	1996	6	130-140	150
GSM/CDMA 2.5G	2001	9-12	165-175	120
3G	2006	12	250	100
4G	2011	8-14	365	80



At each paradigm shift one truism has held - each shift requires more cell towers and more gear on the towers

THE PHYSICS OF 4G REQUIRES SIGNIFICANT INCREMENTAL CELL SITES

MBTA Tower Build Opportunity

Massachusetts Bay Transportation Authority

MACRO SITE MODEL

- 142 monopole sites built with capacity for four carriers (heights 100' – 150')
- $35.5M CAPEX for towers ($250K/tower)
- Average Lease Up Rate .25 carriers/tower/year
- Conservative average revenue/carrier $2,500/month, 3% annual escalation
- No revenue projected from backhaul – UPSIDE opportunity
- No initial leverage, 6x leverage multiple at positive cash flow
- Terminal Value 14.5x

Summary of Key Results

	Year 5	Year 10	Year 20
Tower Cash Flow Run Rate	$3.8M	$10.1M	$15.1M
Equity Value	$43.1M	$86.3M	$128.0M
IRR	15.5%	25.1%	24.4%

MBTA Tower Build Opportunity

Massachusetts Bay Transportation Authority

SMALL CELL SITE MODEL

- 142 monopole sites built with capacity for two carriers (heights 40' – 60')
- $7.1M CAPEX for towers ($50K/tower)
- Average Lease Up Rate .25 carriers/tower/year
- Conservative average revenue/carrier $400/month, 3% annual escalation
- Backhaul revenue $400/month/carrier, 3% annual escalation
- No initial leverage, 6x leverage multiple at positive cash flow
- Terminal Value 12x

Summary of Key Results

	Year 5	Year 10	Year 20
Tower Cash Flow Run Rate	$1.3M	$1.5M	$2.0M
Equity Value	$7.9M	$8.9M	$12.0M
IRR	28.3%	25.5%	24.4%

SECTION U – NORTH/SOUTH/BACK BAY STATION WI-FI EQUIPMENT & DESIGN

InMOTION will deploy Ruckus Wireless Equipment. inMOTION has chosen the 7982 access point and 3000 series wireless controller. Specifications are provided below.

ZoneFlex™ 7982

Dual-Band 3x3:3 802.11n Smart Wi-Fi AP



The Industry's Highest Capacity, Highest Performing Three-Stream 802.11n AP

Ruckus ZoneFlex 7982 is the industry's first dual-band, three-stream 802.11n access point that incorporates Ruckus patented BeamFlex™ adaptive antenna arrays. Coupled with transmit beamforming (TxBF), when available, the ZoneFlex 7982 delivers the highest throughput of any AP in its class.

The ZoneFlex 7982 ensures the most reliable connectivity within challenging and ever-changing RF environments. With BeamFlex, the ZoneFlex 7982 offers a 2-4x increase in performance and range and is capable of delivering up to 9 dB of signal-to-interference-plus-noise (SINR) improvement and up to 15 dB of interference mitigation over other APs. Capable of supporting 500 concurrent clients, the ZoneFlex 7982 simultaneously supports spatial multiplexing and BeamFlex to deliver the best price/performance of any three-stream 802.11n AP.

With a stream throughput of 450 Mbps per radio, the ZoneFlex 7982 ensures maximum throughput to three-stream capable clients while also improving single and dual-stream client performance. This is achieved through the unique combination of adaptive antenna technology, predictive channel selection and adaptive polarization diversity. Backward compatible with all existing clients, the ZoneFlex 7982 can function either as a standalone AP or as part of centrally-managed Wireless LAN with the Ruckus ZoneDirector SmartWLAN controller.

ZoneFlex 7982 is purpose-built for high-capacity, high performance and interference-laden environments such as airports, public venues, hotels, universities and conference centers. The perfect choice for data-intensive streaming multimedia applications, the ZoneFlex 7982 delivers picture perfect HD-quality IP video while supporting VoIP and data applications that have stringent quality of service requirements.

Smart Meshing makes the ZoneFlex 7982 ideal for reliably extending Wi-Fi services to areas where cabling Ethernet isn't possible or economical — saving time and money.

BENEFITS

Industry's highest performing three-stream AP
ZoneFlex 7982 delivers up to 4x higher TCP throughput increases over competitive three-stream APs across all distances

High concurrent client capacity
Capable of supporting up to 500 concurrent client stations per AP

Reduced Wi-Fi interference
Up to 15 dB of interference mitigation and a 50 percent reduction in interference to neighboring APs

Flexible deployment options
Standalone with router functionality or controller-based deployment with any of Ruckus ZoneDirectors

Dual concurrent 3x3:3 MIMO and BeamFlex
Three spatial streams combined with BeamFlex adaptive antenna technology ensures the most throughput out of the total 900 Mbps available without the client capabilities for transmit beamforming

Adaptive polarization diversity with MRC (PD-MRC)
Dual-polarized antennas that are dynamically selected provide better reception for hard to hear clients and more consistent performance as clients constantly change orientation

Improved performance to legacy clients
Increases throughput to single and dual-stream clients by combining BeamFlex, polarization diversity and three radio chains

Best in class channel selection with ChannelFly™
Capacity-driven channel selection predict and automatically selects best performing channel based on statistical, real-time capacity analysis of all RF channels

Proven support for IP-based voice and video over Wi-Fi
Our adaptive antenna array finds the best path for any given transmission allowing unprecedented support for picture perfect high-definition video, crystal clear voice and high speed data

Smart meshing streamlines costly and complex deployment
Integrated Smart Mesh Networking technology automates deployment and eliminates running expensive cables to every AP

Ruckus
Simply Better Connections

ZoneFlex 7982

Dual Band 3x3:3 802.11n Smart Wi-Fi Access Point

Patented BeamFlex technology extends signal range, improves stability of client connections

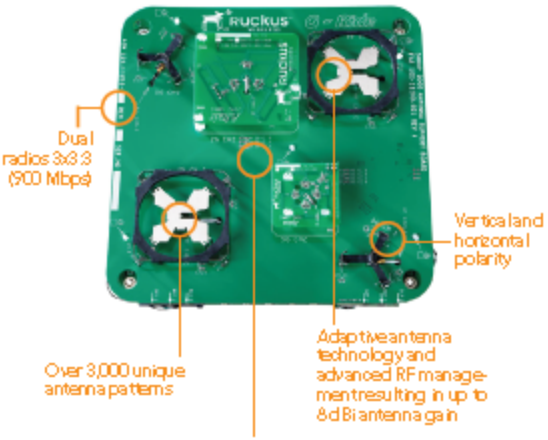
The ZoneFlex 7982 integrates a patented software-controlled adaptive antenna array that delivers additional signal gain per radio chain. As BeamFlex adapts to client locations and antenna polarity, the smart antenna array optimizes the RF energy toward client on a per packet basis. This allows for up to 4x improvement in signal range and a reduction in packet loss from the ability to automatically mitigate interference and obstacles. By combining BeamFlex with the transmit-based beamforming, the ZoneFlex 7982 is capable of delivering up to 9 dB of SINR gain while offering concurrent support for spatial multiplexing.

Adaptive polarization diversity for unmatched reception of mobile client signals

In dynamic indoor and urban Wi-Fi environments device orientation constantly changes. This affects the polarization of the transmissions. Traditional Wi-Fi antennas are static in nature and only listen using one polarization. This prevents them from capturing the full signal from mobile client devices. The Ruckus 7982 listens in all polarizations simultaneously. This results in a over 2x (4 dB) gain to mobile devices with weak transmitters.

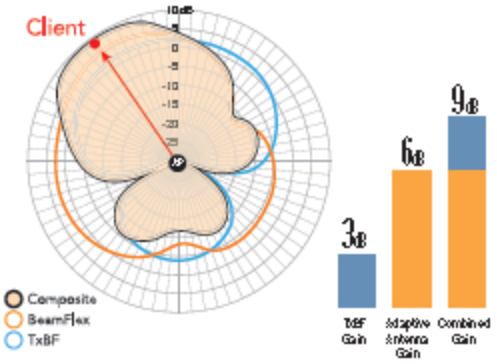
Advanced WLAN applications with SmartOS

When used with the Ruckus ZoneDirector Smart WLAN controller, the ZoneFlex 7982 supports a wide range of value-added applications such as guest networking, Smart Wireless Meshing, Dynamic PSK, hotspot authentication, wireless intrusion prevention and many more. WLANs can also be grouped and shared by specific APs. In a centrally managed configuration, the ZoneFlex 7982 works with various authentication servers including AD, LDAP, and RADIUS.



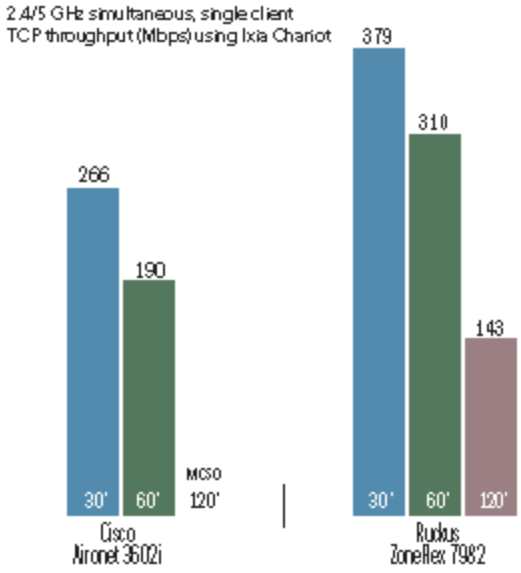


Increased Antenna Gain using TxBF with BeamFlex



Ruckus access points uniquely combine the benefits of adaptive antenna arrays with transmit beamforming to provide unmatched reliability and TCP performance in real-world deployments

Competitive Three-Stream AP Performance Testing at Range



ZoneFlex 7982

Dual Band 3x3:3 802.11n Smart Wi-Fi Access Point

FEATURES

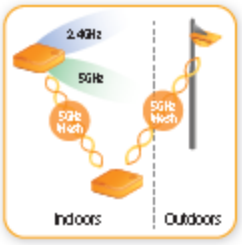
- Concurrent dual-band (5 GHz/2.4 GHz) support
- Automatic interference avoidance, optimized for high-density environments
- Space Time Block Coding for increased handset performance
- Improved Maximum Ratio Combining (MRC) for best-in-class receive sensitivity
- Low Density Parity Check (LDPC) for increased data throughput at all ranges
- PD-MRC improves signal reception of mobile devices
- Integrated smart antenna array with a thousand unique patterns for ultra reliability
- Unmatched Rx sensitivity down to -101 dBm
- Either standalone or centrally managed
- Integrated NAT and DHCP support
- Standard 802.3af Power over Ethernet (PoE)
- Multicast IP video streaming support
- Four software QoS queues per client station
- Future support for advanced spectrum analysis
- Up to 16 BSSIDs with unique QoS and security policies
- Wall or ceiling mountable with unobtrusive design
- Built-in mounting options for fast an easy deployment

- *WEP, WPA-PSK (AES), 802.1X support for RADIUS and AD**
- *Smart Mesh Networking**
- *Zero-IT and Dynamic PSK**
- *Admission control/load balancing**
- *Band steering and airtime fairness*
- *Captive portal and guest accounts**

* when used with the ZoneDirector Smart WLAN controller.



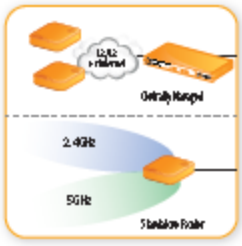
Blinding Fast 3-Stream 802.11n



Dual-band and Meshable

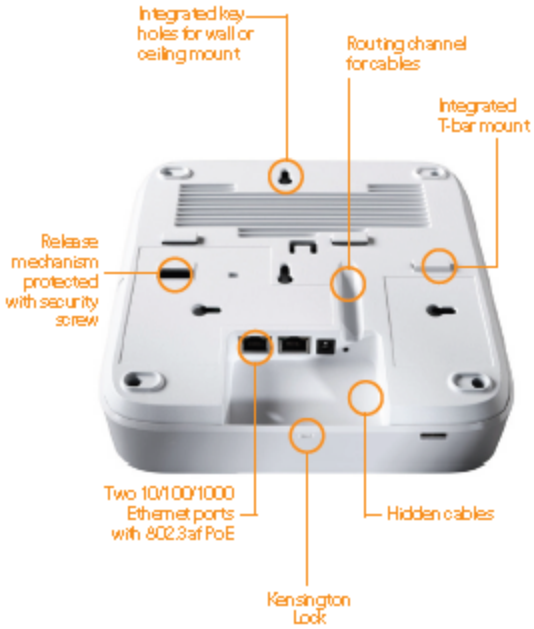


Ultra High User Density



Architectural Flexibility





Specifications

PHYSICAL CHARACTERISTICS	
POWER	• DC Input: 12 VDC 1.5A • Power over Ethernet 802.3af
PHYSICAL SIZE	• 20.3 cm (L), 20.3 cm (W), 5 cm (H)
WEIGHT	• 1kg (2.25 lbs.)
RF	• Adaptive antenna array that provides 3,000+ unique antenna patterns • Maximum EIRP[1] 2.4 GHz: 34 dBm 5 GHz: 32 dBm • Physical antenna gain: 9dBi (2.4 and 5GHz) • BeamFlex SINR Tx gain[2]: up to 9 dB • BeamFlex SINR Rx gain: up to 4 dB • Interference mitigation: up to 15 dB • Minimum Rx sensitivity[3]: -101 dBm
ETHERNET PORTS	• 2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45 • Power over Ethernet (802.3af) with Category 5/5e/6 cable
ENVIRONMENTAL CONDITIONS	• Operating Temperature: 32°F (0°C) - 122°F (50°C) • Operating Humidity: up to 95% non-condensing
POWER CONSUMPTION	• 5W (minimum) • 7W (typical) • 13W (peak)

PERFORMANCE AND CAPACITY	
PHY DATA RATES	• up to 450 Mbps per radio
CONCURRENT STATIONS	• Up to 500
SIMULTANEOUS VoIP CLIENTS	• Up to 60 (802.11e/WMM support), 30 per radio

NETWORK ARCHITECTURE	
IP	• IPv4, IPv6, dual-stack
VLANs	• 802.1Q (1 per BSSID or dynamic, per user based on RADIUS) • Port-based
802.1X FOR WIRED PORTS	• Authenticator • Supplicant
TUNNELING	• L2TP, PPPoE

MULTIMEDIA AND QUALITY OF SERVICE	
802.11e/WMM	• Supported
SOFTWARE QUEUES	• Per WLAN priority (2), Per traffic type (4) per client
TRAFFIC CLASSIFICATION	• Automatic, heuristics and TOS based or VLAN-defined
RATE LIMITING	• Dynamic per-user or per-WLAN

MANAGEMENT	
DEPLOYMENT OPTIONS	• Standalone (individually managed) • Managed by ZoneDirector • Managed by FlexMaster
CONFIGURATION	• Web User Interface (HTTP/S) • CLI (Telnet/SSH), SNMP v1, 2, 3 • TR-069 via FlexMaster
AUTO SOFTWARE UPDATES	• FTP or TFTP, remote auto available

WI-FI	
STANDARDS	• IEEE 802.11a/b/g/n • 2.4GHz and 5GHz concurrent operation
SUPPORTED DATA RATES	• 802.11n: 6.5Mbps – 216.7 Mbps (20MHz) 13.5Mbps – 450Mbps (40MHz) • 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps • 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
RADIO CHAINS	• 3 x 3
SPATIAL STREAMS	• 3
RF POWER OUTPUT	• Max Transmit Power(1): 23 dBm on 2.4 GHz; 21 dBM on 5 GHz
CHANNELIZATION	• 20 MHz and/or 40 MHz
FREQUENCY BAND	• IEEE 802.11 n: 2.4 – 2.484 GHz and 5.15 – 5.85 GHz • IEEE 802.11 a: 5.15 – 5.85 GHz • IEEE 802.11 b: 2.4 – 2.484 GHz
OPERATING CHANNELS	• US/Canada: 1-11, Europe (ETSI): 1-13; Japan (J41): 1-13 • 5 GHz channels: Country dependent
BSSID	• Up to eight per radio (16 total)
POWER SAVE	• Supported
WIRELESS SECURITY	• WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i • Authentication via 802.1X, local authentication database, support for RADIUS, LDAP, and Active Directory
CERTIFICATIONS	• U.S., Europe, Canada • WEEE/RoHS compliance • EN 60601-1-2 • Wi-Fi Alliance certified • UL 2043 plenum rated

[1] Max power varies by country setting, band, and MCS rate

[2] BeamFlex gains are statistical system-level effects (including TxBF) translated to enhanced SINR here, and based on observations over time in real-world conditions with multiple APs and many clients

[3] Rx sensitivity varies by band, channel width, and MCS rate

Product Ordering Information

MODEL	DESCRIPTION
ZoneFlex 7982 Dual Band 802.11n Access Point	
901-7982-XX00	ZoneFlex dual-band (5 GHz and 2.4 GHz concurrent) 802.11n wireless access point, 3x3:3 streams, adaptive antenna array, dual ports, PoE support. Does not include power adapter.
Optional Accessories	
902-0162-XXYY	PoE injector (90 – 264 VAC 47-63 Hz)
902-0169-XX10, XX11	Power supply (90 – 264 VAC 47-63 Hz)

PLEASE NOTE: When ordering ZoneFlex Indoor APs, you must specify the destination region by indicating -US, or -WW instead of XX. When ordering PoE injectors or power supplies, you must specify the destination region by indicating -US, -EU, -AU, -BR, -CN, -IN, -JP, -KR, -SA, -UK, or -UN instead of -XX.

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Ruckus
Simply Better Wireless.

data sheet

BENEFITS

Unmatched scalability
Supporting up to 500 APs and 1,024 WLANs per device, the ZoneDirector 3000 can easily serve medium to large campus deployments

IT lite deployment in 5 minutes, simple to use and manage
Web-based configuration wizard configures an entire WLAN in minutes. ZoneFlex APs auto-discover the ZoneDirector. Centralized management and automatic, real-time optimization of entire WLAN

Advanced WLAN features and functions
Advanced wireless networking features include rogue AP detection, interference detection, band steering, airtime fairness, role-based user policies, per-user rate-limiting, hotspot and guest networking services

Smart Mesh Networking streamlines costly and complex deployment
Integrated Ruckus Smart Mesh Networking technology automates deployment, eliminates the need to run Ethernet cable to every Smart Wi-Fi AP. Adaptable architecture with Hybrid Mesh extends the wireless network through Ethernet-connected APs, increasing system performance

Automatic user security
Dynamic PSK eliminates the requirement to configure and update individual PC client devices with unique encryption keys. Dynamic VLAN assignment seamlessly extends existing security policies to the WLAN

Easy monitoring and troubleshooting
Customizable dashboard provides comprehensive at-a-glance network snapshot and allows drill down to troubleshoot wireless problems

Distributed forwarding architecture
Maximizes data throughput by sending all data traffic directly from the access points to the wired network

ZoneDirector™ 3000

ENTERPRISE-CLASS SMART WIRELESS LAN CONTROLLER

The First Simple and Powerful Enterprise Smart Wireless LAN Controller

The Ruckus Wireless ZoneDirector 3000 is the first enterprise-class Smart Wireless LAN system that delivers a secure, robust and easily expandable WLAN solution at an unmatched total cost of ownership.

Capable of managing up to 500 ZoneFlex Smart Wi-Fi access points and 10,000 clients from a single location, the Ruckus ZoneDirector 3000 is designed for simplicity and ease of use.

Unlike conventional wireless LAN systems that are costly, complex and cumbersome to deploy, the ZoneDirector 3000 is ideal for any enterprise that requires a high-performance wireless LAN that can be easily deployed and managed.

The ZoneDirector 3000 integrates the Ruckus SmartOS application engine that delivers advanced features such as smart wireless meshing, high availability, hot spot authentication, elegant guest networking and dynamic Wi-Fi security.

The Ruckus ZoneDirector 3000 can be deployed and operated by non-wireless experts and can be installed quickly and easily. Any organization with limited IT staff and budget can create a robust and secure multimedia WLAN in a matter of minutes.

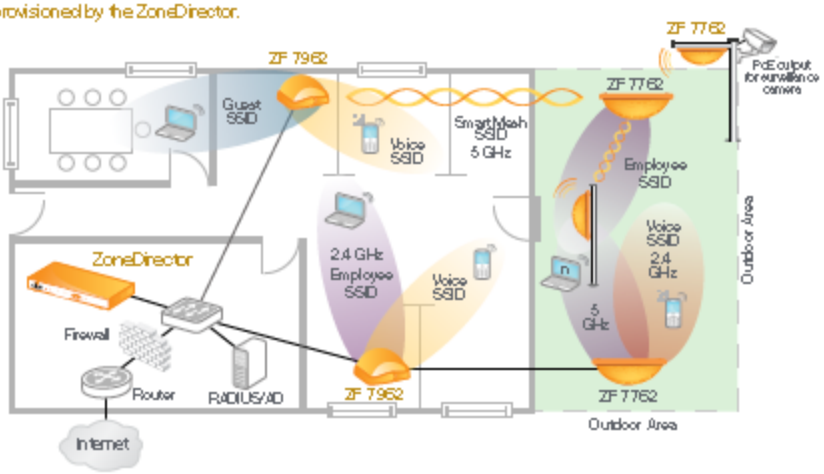
The Ruckus ZoneDirector easily integrates with network, security and authentication infrastructure already in place and is easily configured through a point-and-click web wizard. Ruckus ZoneFlex APs automatically discover and are configured by the ZoneDirector.

Redundant and secure, the Ruckus ZoneDirector provides WLAN-wide network, security, RF and location management within a single, easy-to-use and affordable WLAN system.

ZoneDirector™ 3000

ENTERPRISE-CLASS SMART WIRELESS LAN CONTROLLER

The ZoneDirector 3000 can be deployed anywhere within a Layer 2/3 network. All ZoneFlex APs are dynamically discovered and automatically provisioned by the ZoneDirector.



Simple to Deploy

The Ruckus ZoneDirector integrates seamlessly with existing switches, firewalls, authentication servers and other network infrastructure. The ZoneDirector can be placed within any Layer 2/3 network. All Ruckus ZoneFlex APs (wired or meshed) then automatically discover the Ruckus ZoneDirector, self configure and become instantly manageable. Ruckus Smart Redundancy ensures high network availability and is easy to use with automatic synchronization of configuration and authorized users between ZoneDirectors.

Simple to Manage

Once up and running the ZoneDirector automatically manages the ZoneFlex network of APs – automatically adjusting transmit power levels and RF channel assignments as needed, to avoid interference, prevent adjacent APs from interfering and enable redundant coverage in the event of an AP failure. Configuration changes can easily be applied to multiple APs, or the entire system, simultaneously. A customizable dashboard provides instant access to a variety of client and network information and events, and a real-time heat map displays AP locations and signal coverage, as well as your Ruckus Smart Mesh Networking topology.

ZoneDirector Smart WLAN systems integrate a unique performance utility from Ruckus called SpeedFlex™. Ruckus SpeedFlex allows administrators to locally or remotely determine client Wi-Fi performance over the wireless LAN. With SpeedFlex, administrators can now better plan, troubleshoot, monitor and measure WLAN performance, eliminating the need to use Internet-based speed tools that often provide inaccurate results of the local Wi-Fi environment.

Simple to Secure

The ZoneDirector 3000 provides innovative new techniques that simplify and automate Wi-Fi security. In addition to enterprise-class 802.1x support and dynamic VLAN assignment capabilities, the ZoneDirector 3000 supports a patent-pending Dynamic Pre-Shared Key (PSK) capability that streamlines WLAN security.

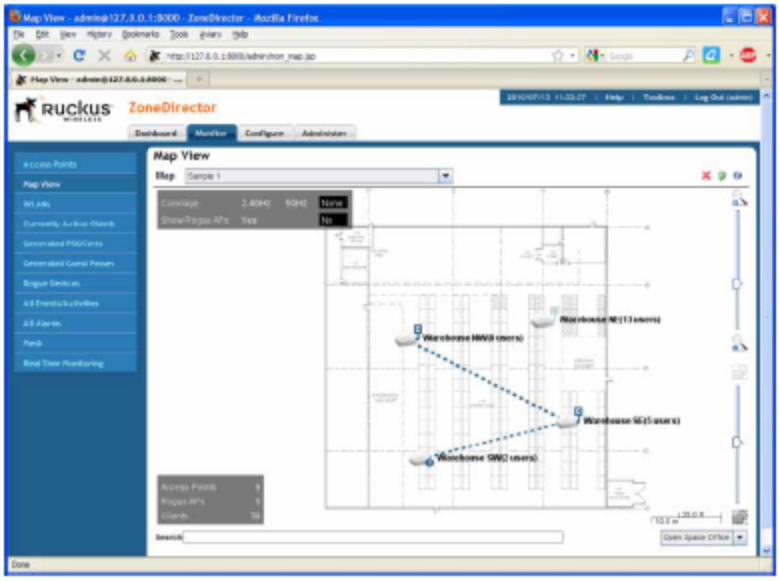
First-time users plug their computers into the LAN and specify a URL that directs them to a captive web portal for a one-time authentication. After successful authentication, the ZoneDirector automatically configures the client system with the designated SSID and a dynamically-generated encryption key. The key is bound to the client, and can be removed upon expiration when the user or the user's device is no longer trusted.

The Ruckus ZoneDirector centralizes authentication and authorization decisions for all APs, providing secure admission control across the WLAN. It works with any backend authentication database such as RADIUS and ActiveDirectory and also comes with an internal authentication database. Additionally, clients can be dynamically assigned to a VLAN based on their RADIUS attributes.

ZoneDirector™ 3000

ENTERPRISE-CLASS SMART WIRELESS LAN CONTROLLER

The ZoneDirector 3000 provides a detailed map view that lets administrators quickly see the Wi-Fi network topology for all ZoneFlex Smart Wi-Fi access points.



Avoid Interference, Maximize Performance and Extend Reach with BeamFlex

Ruckus BeamFlex™, a patented Wi-Fi beam-steering technology, ensures predictable performance for multimedia traffic applications and extends range to eliminate Wi-Fi deadspots. With ZoneDirector, the value of BeamFlex is extended beyond a single access point to the system-wide WLAN and smart wireless meshing.

The ZoneDirector automatically controls the channel assignments and transmit power of all ZoneFlex Smart Wi-Fi APs. And with BeamFlex, the ZoneFlex system continuously picks the best path for every packet, to both clients outside the network and mesh APs inside the network, automatically avoiding interference, to guarantee the highest quality of service.

Smart Mesh Networking Increases Flexibility, Reduces Costs

Ruckus Smart Mesh Networking enables self-organizing and self-healing WLAN deployment. It eliminates the need to run Ethernet cables to every AP, allowing administrators to simply plug in ZoneFlex APs to any power source and walk away. All configuration and management is delivered through the ZoneDirector Smart WLAN controller. APs can also be daisy-chained to mesh APs to extend the mesh and take advantage of spatial reuse. Smart meshing uses patented Smart Wi-Fi technology to extend range and control Wi-Fi signals to minimize inter-nodal hops that degrade performance and automatically adapt Wi-Fi connections between nodes to maintain ultra high reliability.

ZoneDirector™ 3000

ENTERPRISE-CLASS SMART WIRELESS LAN CONTROLLER

HARDWARE FEATURES



- Thin 1U rackmountable footprint
- Easy discovery from PC using UPnP
- Manage multiple locations and ZoneDirectors with RedMaster
- Two 1000 Mbps ports for full redundancy
- Lifetime warranty coverage

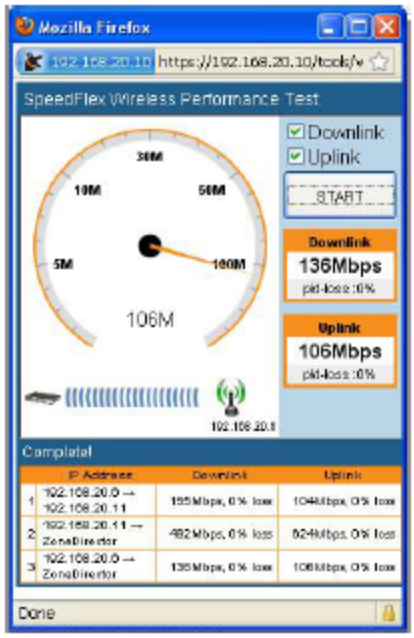
SOFTWARE FEATURES



Central control and configuration of up to 500 ZoneFlex APs

- Support for 1,024 WLANs
- Integrated DHCP server
- Easy-to-use setup wizard
- Ultra-intuitive GUI
- 1+1 redundancy with auto synchronization
- Smart Mesh Networking control and monitoring
- Real-time client admission control
- Load-balancing
- Customizable dashboard
- Dynamic RF channel and power management
- Quality of Service with WLAN prioritization, bands teering* and airtime fairness
- Integrated captive portal
- Native ActiveDirectory/RADIUS/LDAP support
- Local authentication database
- Dynamic VLAN assignment
- Guest networking
- Dynamic generation of unique Pre-Shared Keys
- Rogue AP detection and graphical map view
- Aerosc out location services support
- Hotspot authentication using WISPr
- WISPr Smart Client Support
- Performance monitoring and statistics
- Limited lifetime warranty

*for ZoneFlex 7962, 7762 and 7363 dual-band access points



SpeedFlex™ is a unique wireless performance test tool integrated within the ZoneFlex™ family of centralized controllers that measures the Wi-Fi throughput of associated wireless LAN clients.

Specifications

PHYSICAL CHARACTERISTICS	
POWER	• 220 watt internal power supply • 100–250 VAC Universal, IEC 320 connector
PHYSICAL SIZE	• 1RU: 35.52cm(L), 43.18cm(W), 4.39cm(H)
WEIGHT	• 14 lbs (6.37 kilograms)
ETHERNET PORTS	• 2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45
ENVIRONMENTAL CONDITIONS	• Operating Temperature: 41°F (5°C) – 104°F (40°C)

CAPACITY	
MANAGED APs	• Up to 500
VLANs (BSSIDs)	• 1,049
CONCURRENT STATIONS	• Up to 10,000

APPLICATIONS	
HOTSPOT	• WISPr
GUEST ACCESS	• Supported
CAPTIVE PORTAL	• Supported
MESH	• Supported
VOICE	• 802.11e/WMM • U-APSD • Tunneling to AP

NETWORK ARCHITECTURE	
IP	• IPv4, IPv6, dual-stack
VLANs	• 802.1Q (1 per BSSID), dynamic VLAN
REDUNDANCY	• 1+1 with auto-synchronization
DCHP SERVER	• Supported

MANAGEMENT	
CONFIGURATION	• Web user interface, CLI, FlexMaster, SNMP v1, v2, v3
AAA	• RADIUS (primary and backup)
AP PROVISIONING	• L2 or L3 auto-discovery • Auto-software upgrade • Automatic channel and power optimization
CLIENT PROVISIONING	• Zero-IT • Auto proxy configuration
WIRELESS PACKET CAPTURE	• Supported

SECURITY	
STANDARDS	• WPA, WPA2, 802.11i
ENCRYPTION	• WEP, TKIP, AES • Ruckus Dynamic Pre-Shared Key
AUTHENTICATION	• 802.1x, MAC address
USER DATABASE	• Internal database up to 10,000 users • External: RADIUS, LDAP, Active Directory
ACCESS CONTROL	• L2 (MAC address-based) • L3/4 (IP and Protocol based) • L2 client isolation • Management interface access control • Time-based WLANs
WIRELESS INTRUSION DETECTION (WIDS)	• Rogue AP detection • DoS attack prevention • Evil-twin/AP spoofing detection • Ad hoc detection • Password guessing protection

MULTIMEDIA AND QUALITY OF SERVICE	
802.11e/WMM	• Supported
SOFTWARE QUEUES	• Per traffic type (4), per client
TRAFFIC CLASSIFICATION	• Automatic, heuristics and TOS based or VLAN-defined
RATE LIMITING	• Supported
WLAN PRIORITIZATION	• Supported
CLIENT LOAD BALANCING	• Automatic

CERTIFICATIONS	
CERTIFICATIONS	• U.S., Europe, Australia, Brazil, Canada, Chile, China, Colombia, Ecuador, Egypt, Hong Kong, India, Indonesia, Korea, Malaysia, Mexico, New Zealand, Pakistan, Philippines, Saudi Arabia, South Africa, Taiwan, Thailand, UAE, Uruguay, Vietnam • Wi-Fi Alliance Certification (Wi-Fi Certified)

Product Ordering Information

MODEL	DESCRIPTION
ZoneDirector 3000 Smart WLAN Controllers	
901-3025-XX00	ZoneDirector 3025 supporting up to 25 APs
901-3050-XX00	ZoneDirector 3050 supporting up to 50 APs
909-0XXX-ZD00	ZoneDirector 3000 AP license upgrade (increments of 50 from 50 to 450)

PLEASE NOTE: When ordering ZoneDirector, you must specify the destination region by indicating -US, -EU, -CN, -IN, -JP, -KR, -SA, -UK or -UN instead of -XX.

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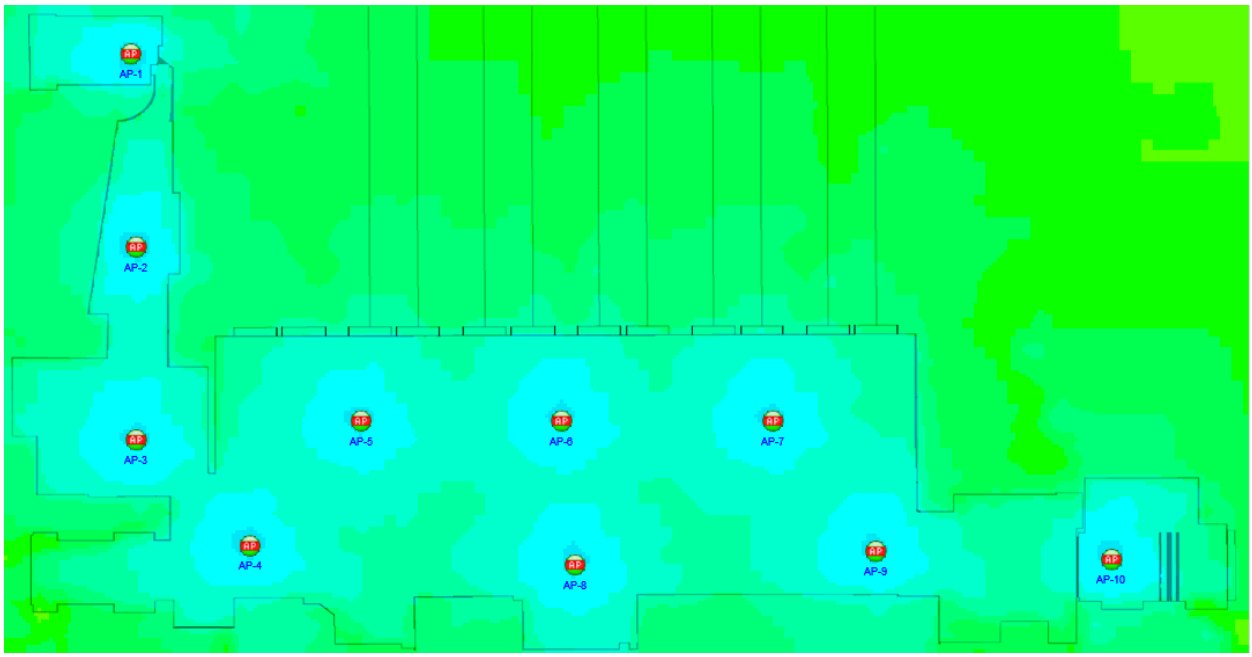
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DESIGN HEATMAPS (predicted coverage areas/predicted signal levels)

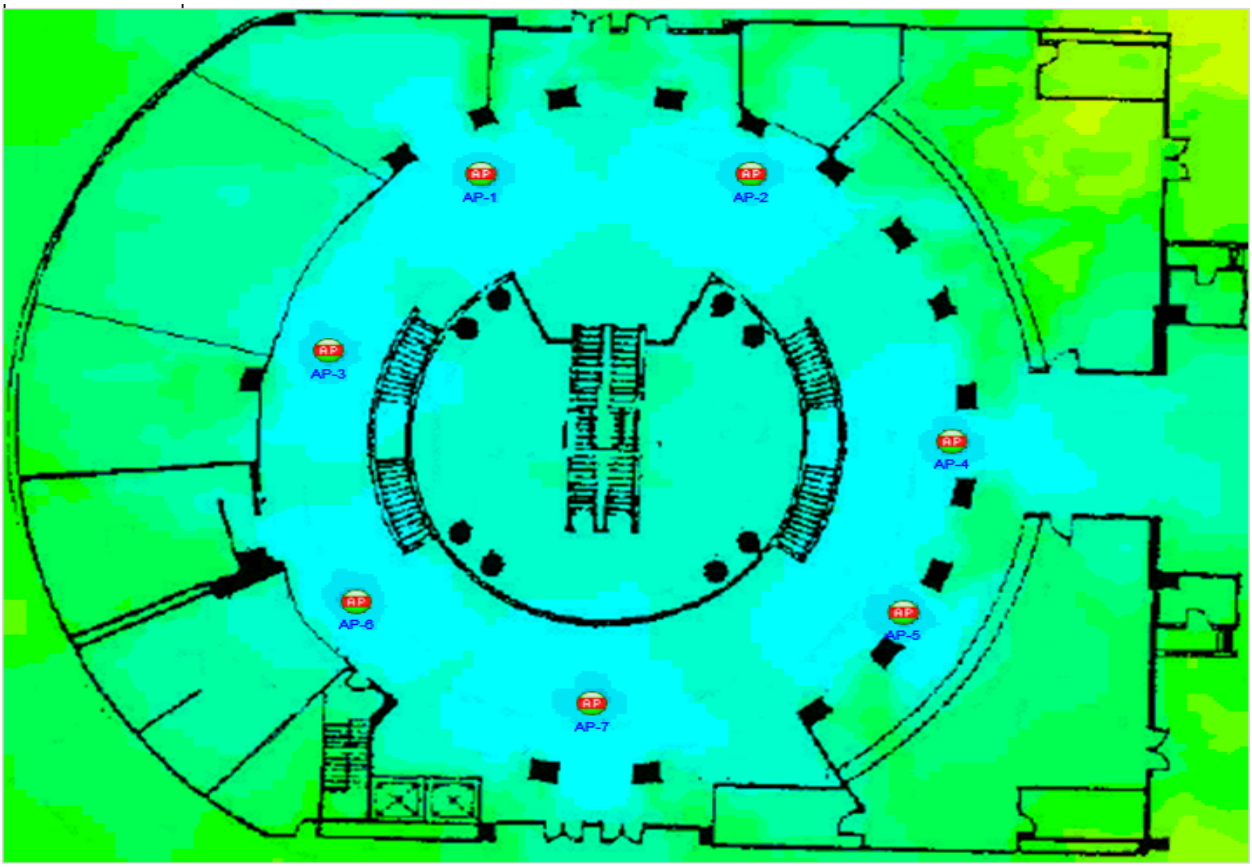
NORTH STATION



SOUTH STATION



BACK BAY MAIN



Heap-maps indicate the location and the predicted performance of the access points. A survey would be performed to obtain actual area performance before the design is deployed at the stations.