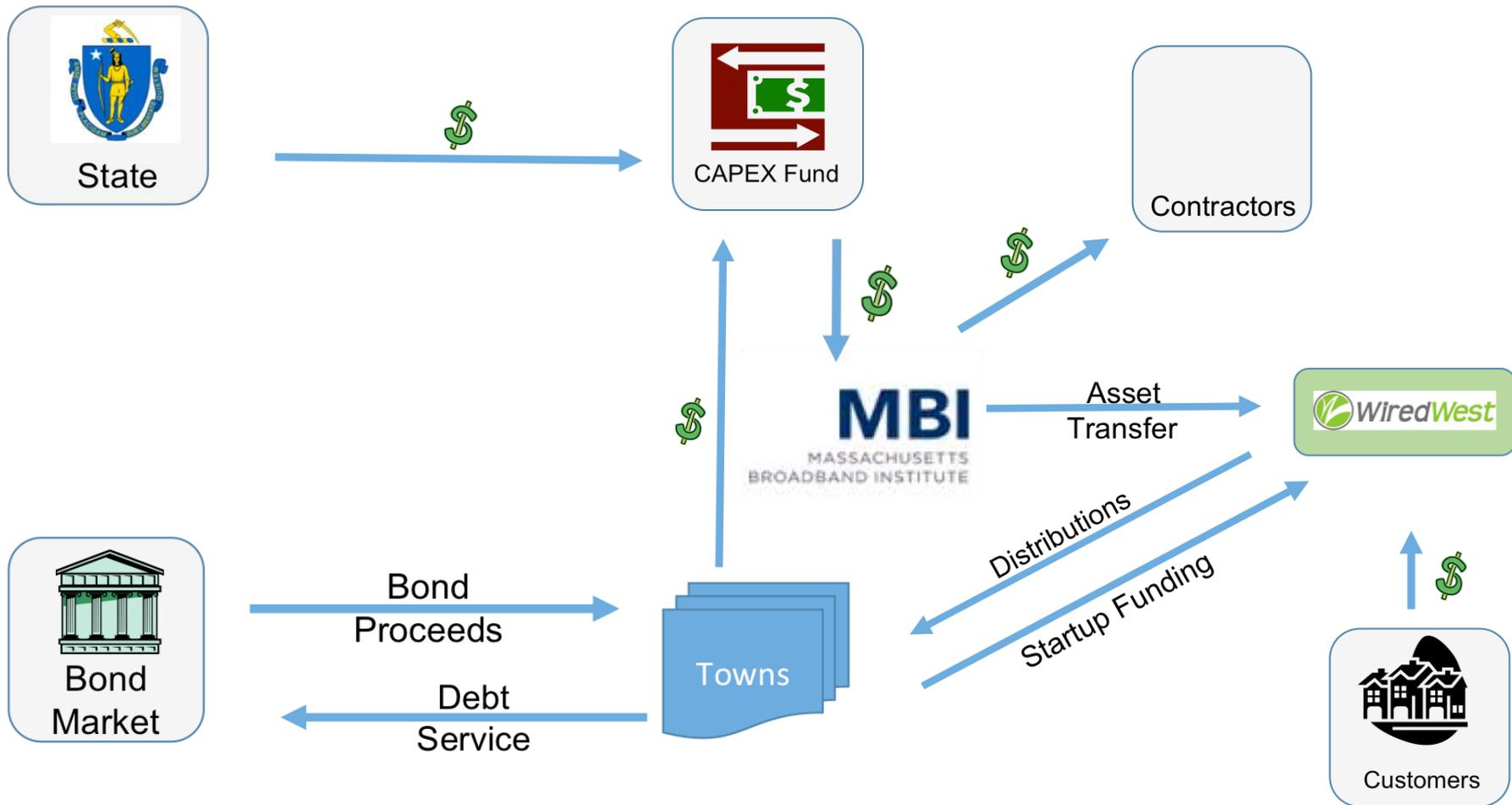


Last Mile Broadband Financial Forum December 11, 2014



Business and Finance Model



Solving the Last Mile: Michael Morgenstern Cartesian



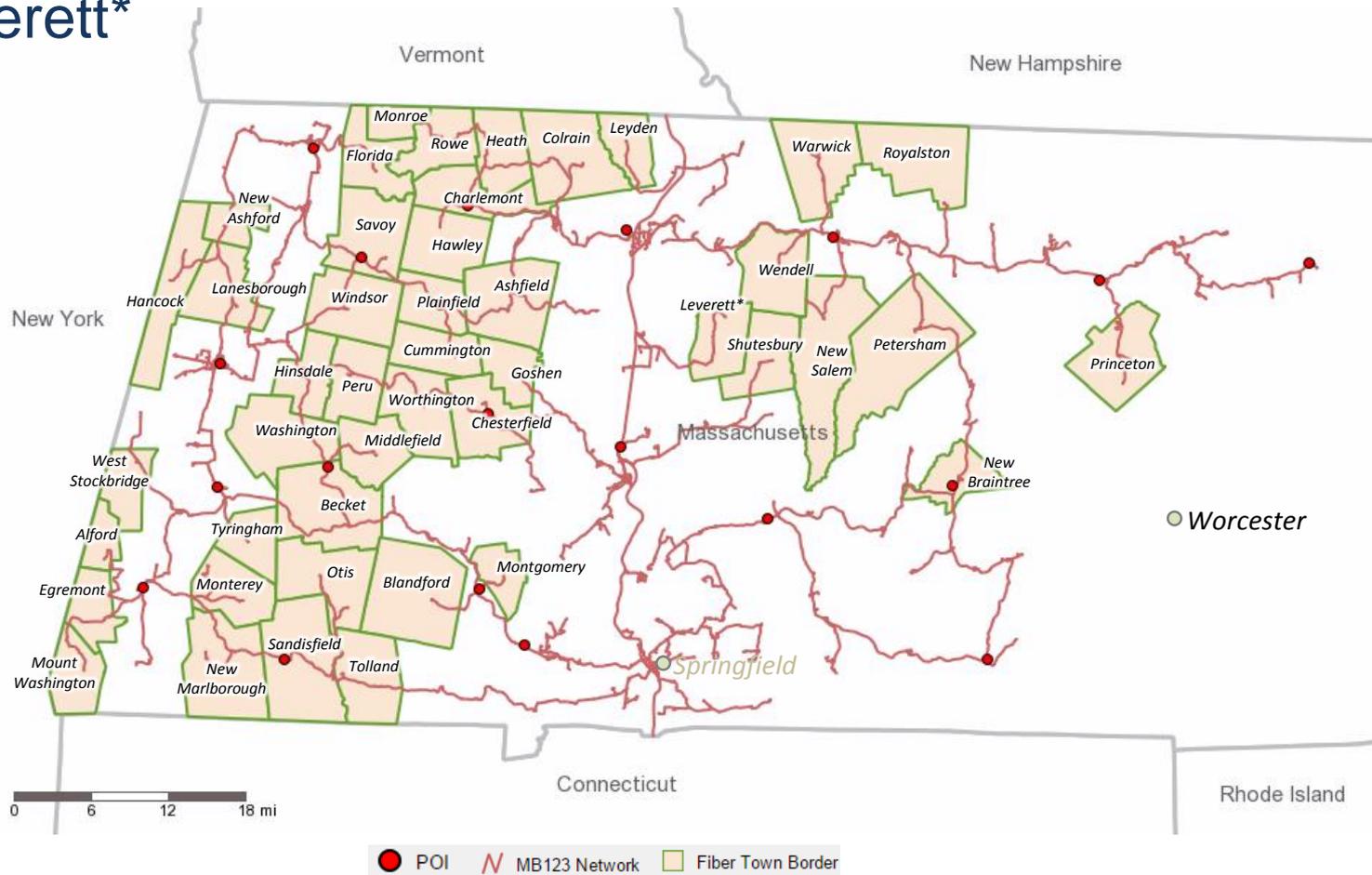
Last-Mile Fiber Network Costs

Total current estimated design and construction cost: **\$100 to \$119 million**

- Sources of capital:
 - \$40 million from MBI
 - Balance of \$60-79 million from towns
- Actual cost will depend on detailed engineering and on how many and which towns participate

Western Massachusetts Map

We modeled 44 towns and separately benchmarked Leverett*



Notes: *Leverett's actual build-out costs were compared to our cost modeling methodology, but Leverett's costs will not be included in subsequent totals.

Executive Summary

We have modeled how an operator would deploy a fiber to the home network in the targeted Western MA footprint

Total Costs

We estimate that it would take up to \$119M¹ to connect 100% of households and businesses to the network and to provide video customer premise equipment to a subset of households that subscribe

Individual Town Costs

Detailed geospatial analyses of individual towns indicate costs ranging from \$0.7M for New Ashford, MA to \$8.4M for Princeton, MA

Costs per Premise

For every home or business that we would potentially serve, town-specific costs average \$3,100, but vary between \$1,200 and \$9,800

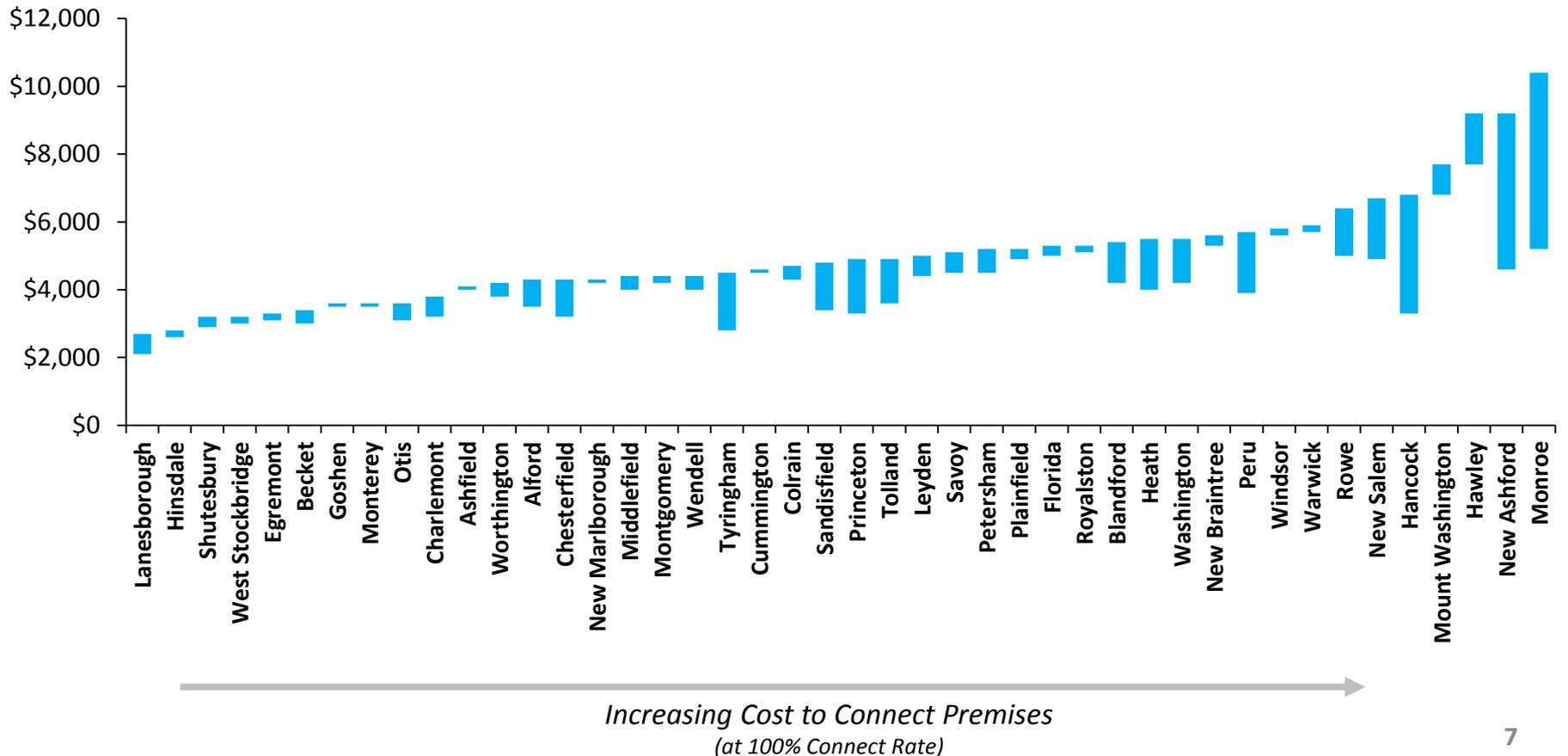
For every home or business that subscribes (which requires additional equipment) the total cost averages \$4,000 (inclusive of the above \$3,100), but varies between \$2,100 and \$10,400

Notes: 1. This estimate does not include the costs associated with the town of Leverett
2. Underlying amounts add up to \$119M but the apparent difference is due to rounding to the nearest million

Total Cost Build Up

Town-specific costs to connect a location varies based on each town's situation

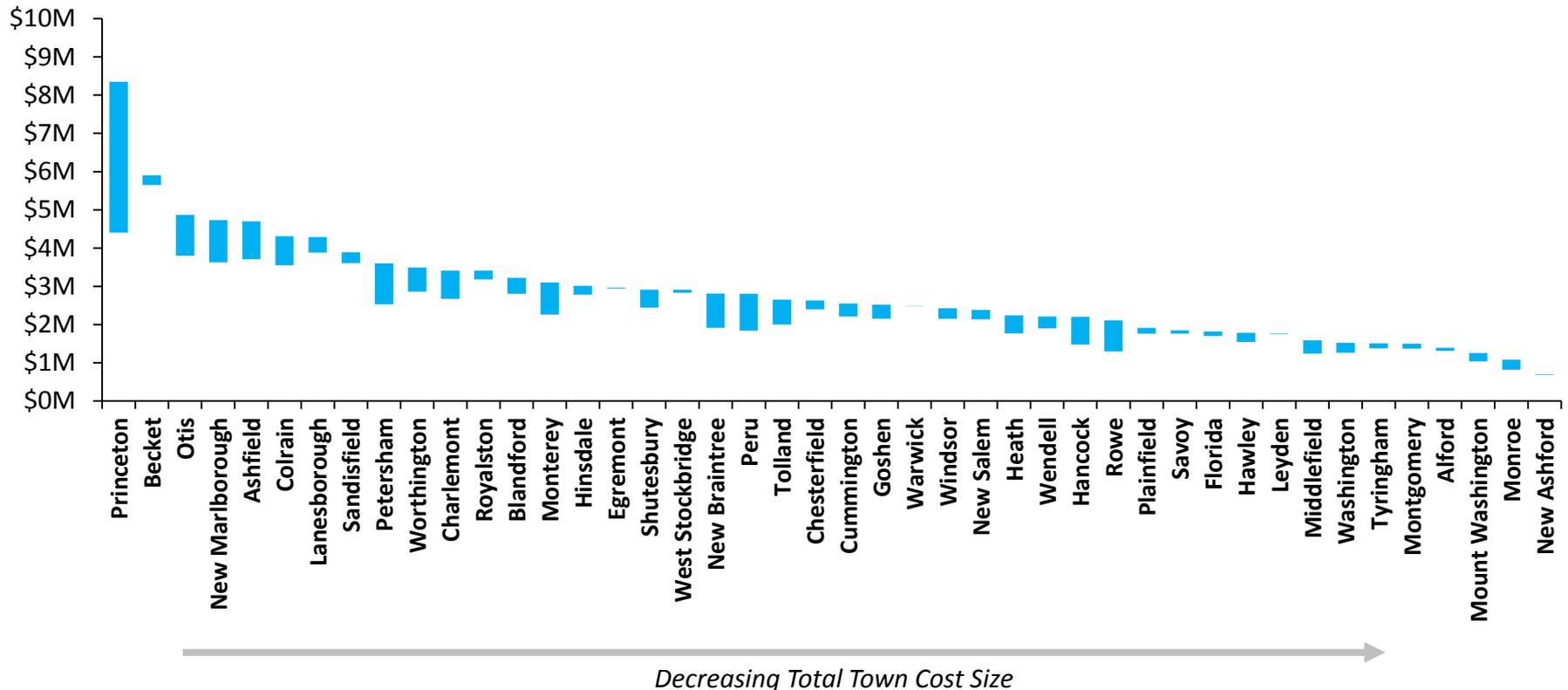
Ranges for Cost to Connect by Town



Total Cost per Town

We estimate that it would take \$100M to \$119M to connect all premises to the network (incl. video at assumed take rates)

Range of Total Cost by Town (at 100% Connect Rate)



Allocation of Costs and MBI Funds

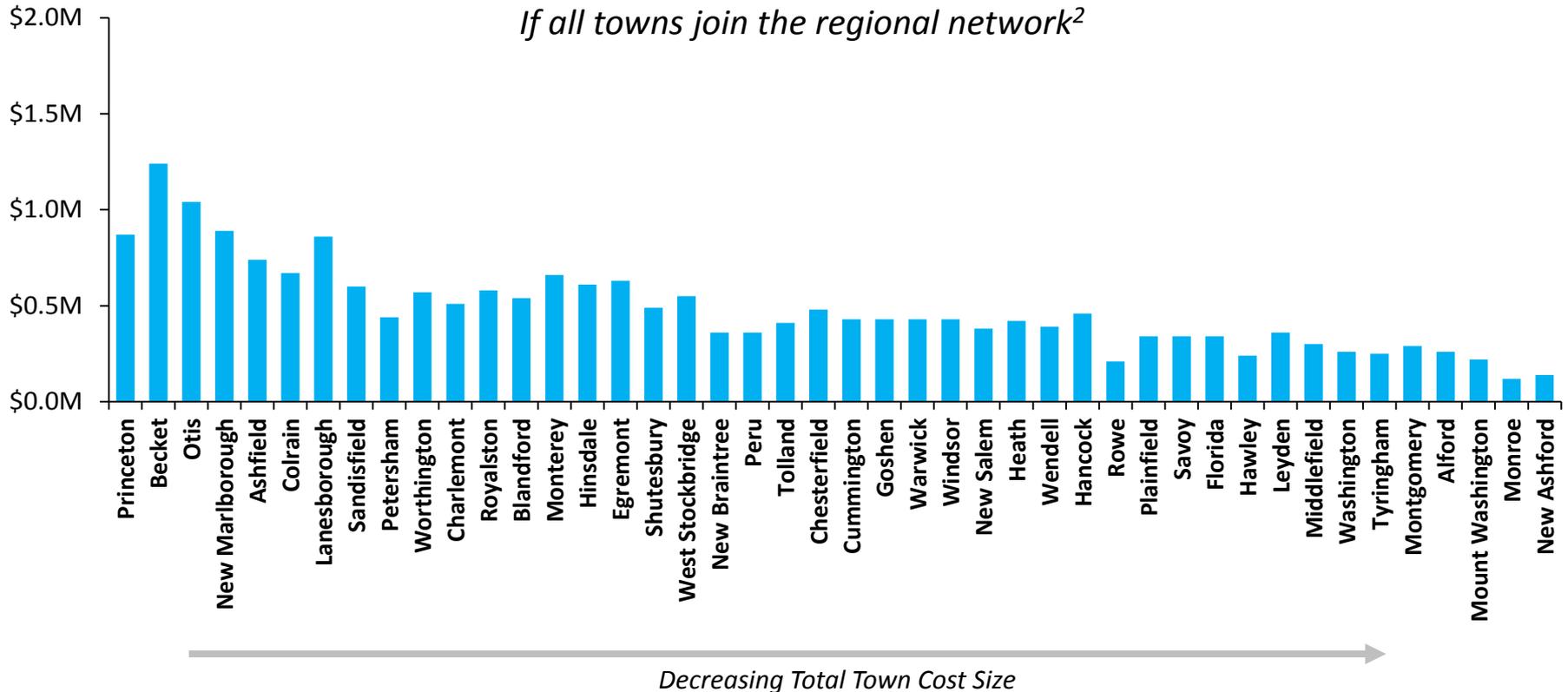
- MBI funds have been preliminarily allocated to towns by assuming participation in the regional Fiber Network and then, by relative share of fiber route miles and total premises
- Allocations are subject to review and adjustment for towns which do not participate in a regional solution
- Allocations are subject to reallocation if not used for a qualified broadband initiative within three years

Current Forecast Grant Allocation

MBI currently expects to use ~\$18M for regional related costs, and to allocate ~\$22M to town-related construction costs¹

Current Forecast Grant Allocation

If all towns join the regional network²



Notes: 1. Leverett is not shown here, but could get a grant that is estimated and is taken out from the \$22M for construction costs
 2. Grants may be lower for towns not joining the regional network

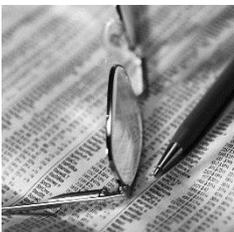
Last Mile Finance Plan: Greg Sandomirsky Mintz Levin



Last Mile Finance Plan Summary Outline

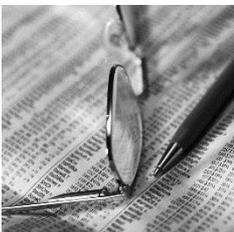
Cooperative Regional Model Town General Obligation Bonds

**GREGORY A.
SANDOMIRSKY**
MINTZ LEVIN
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC



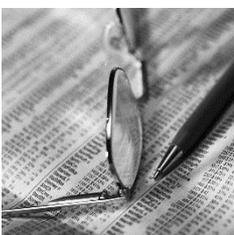
OVERVIEW

- 1.State Grant Funds plus Participating Towns' Contributions = Total Project Costs, including Start-Up Operating Costs. Town Contributions are expected to be Proceeds of Borrowings**
- 2.Project Costs are Estimates; Not to Exceed Town-Specific Amounts to be used for Debt Authorization Purposes.**
- 3.Project to be Financed as a Single Coordinated Project by all Participating Towns on same schedule, regardless of final Construction Plan and Sequence.**
- 4.A Common Plan of Finance for Town Borrowings may make sense.**
- 5.By Agreement among the Towns, their MLPs, WiredWest and MBI, MBI to design and build the Network and WiredWest to assume Title and Overall Operating Responsibility upon Completion.**



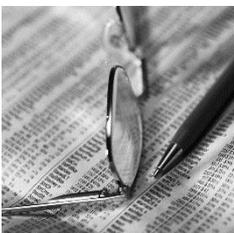
TIMING

- 1. State Grant Funds expected in Three Rounds, subject to continued Commonwealth bond funding – December 2014, 3rd Quarter calendar 2015 and 3rd Quarter calendar 2016.**
- 2. Proceeds of Town Borrowings needed at dates still to be determined beginning as soon as 4th Quarter calendar 2015.**
- 3. Authorization for Town Borrowings required in 2nd Quarter calendar 2015.**
- 4. Absent Additional Grant Funds, any Cost Overruns would require additional Town Contributions.**



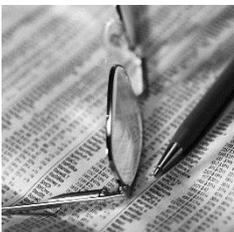
LEGAL AUTHORIZATION

- 1. Each town could issue general obligation (G.O.) bonds under MGL c.44:8(8) to fund its share of the project – statutory language: "[f]or establishing a telecommunications system operated by a municipal lighting plant, 20 years...".**
- 2. Authorization Requires 2/3 Town Meeting Vote. Not subject to ordinary debt limit (MGL c.44:10), but Prop 2-1/2 Exclusion from Tax Levy Limit may be Necessary or Desirable (majority vote by ballot).**
- 3. Each town could apply to have the State's Municipal Finance Oversight Board "qualify" the town's bonds under MGL c.44A to enhance the security and achieve lower interest rate, but some may not have enough local aid available.**
- 4. The State Treasurer pays debt service on "Qualified Bonds" and intercepts local aid to reimburse the State. The rating is one notch below the Commonwealth's.**
- 5. Additional debt structuring flexibility applies to Qualified Bonds.**



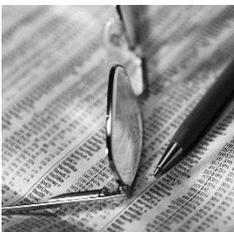
BOND PROCESS

- 1. Towns should retain Bond Counsel and a Financial Advisor, as well as consulting with the MBI/WW/FRCOG team. References Available.**
- 2. A Bond Counsel opinion would be required. Formal Disclosure Documents may be required.**
- 3. Debt could be sold in a Public Sale (formal bid) or in a Private Sale (negotiated process).**
- 4. Towns could issue debt in a coordinated manner using a Common Plan with other towns, or independently.**
- 5. A Common Plan involving the Same Professionals and a Negotiated Sale Process appears to offer the most coordination, flexibility and efficiency.**



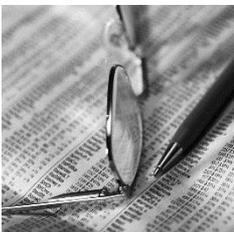
PRINCIPAL AND INTEREST

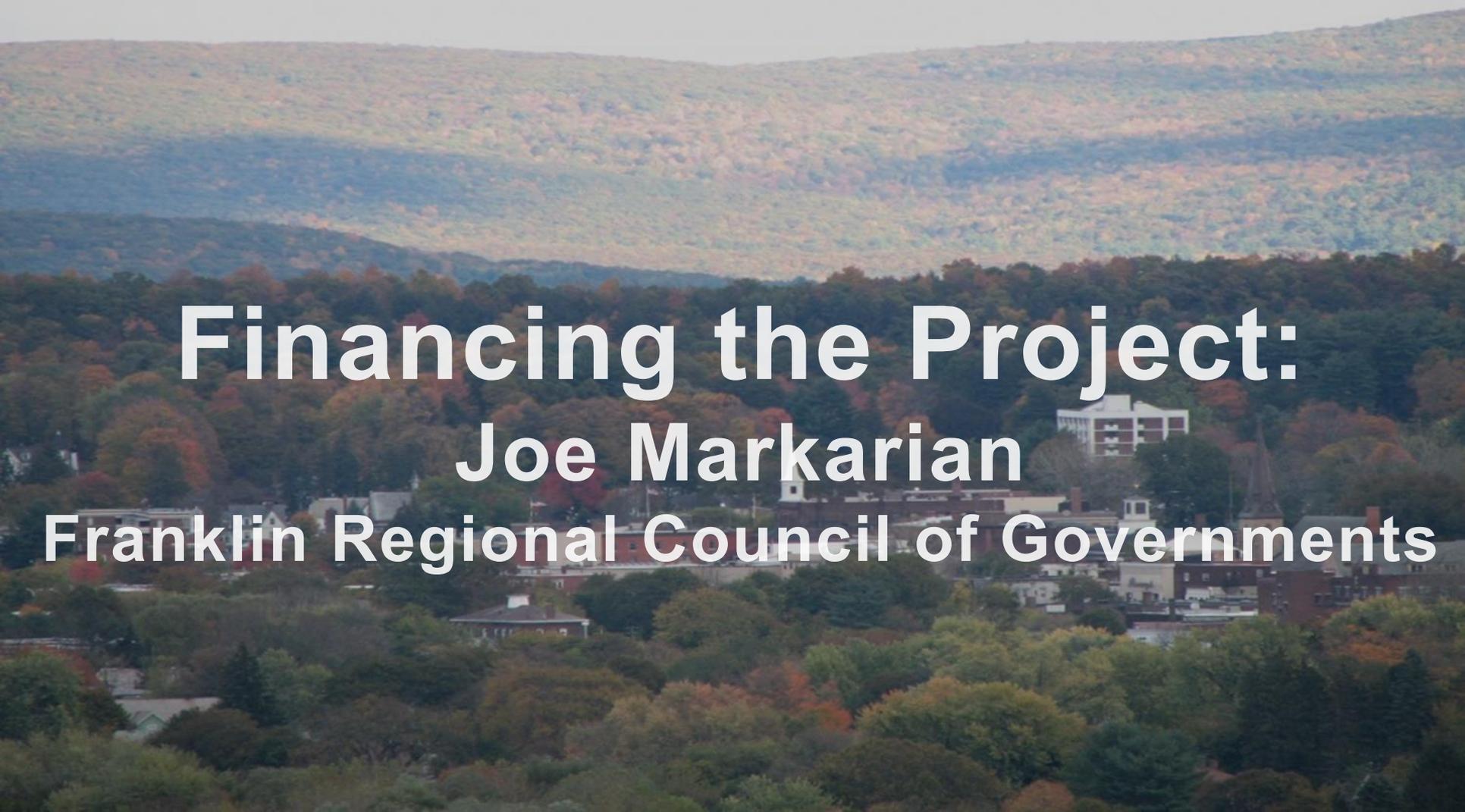
- 1. Once Bonds are Authorized, Bond Anticipation Notes can be used to meet construction funding needs efficiently.**
- 2. BANs typically are issued for a term of a year or less and bear a short term interest rate with interest due at maturity.**
- 3. Under general law BANs can be "rolled over" for two years without amortization and for up to five years if amortization is commenced.**
- 4. Bonds for MLP "capex" can be amortized over a term of up to 20 years (including term of BANs).**
- 5. Use of Qualified Bonds could allow a longer "interest only" period and amortization over up to 30 years and may allow use of a "draw down" mechanism to "lock-in" interest rates up front for BANs or Bonds.**
- 6. The "model" to be presented assumes town bonds issued in three annual rounds, interest only through construction, amortization over the next 17 years and a 4% interest rate.**



DEBT SERVICE BURDEN

- 1. Towns would manage their tax levies and other resources to cover debt service on their bonds. If and when WiredWest has available net revenues, it could distribute money through its member MLPs to reimburse Towns' contributions, which could be used to offset debt service.**
- 2. The operating results of the WiredWest business over time are uncertain and will depend on take-up rates, pricing for services, operating costs, competition, technology change and many other factors.**
- 3. Towns would not be able to count on significant revenues coming back through their MLPs for several years.**
- 4. If WiredWest succeeds, when the towns set their tax levies and budgets in future years, towns may be able to rely on distributions from WiredWest to offset the G.O. bond debt service in whole or in significant part.**
- 5. Towns would remain legally liable on the G.O. bonds regardless of WiredWest operating results.**





Financing the Project:

Joe Markarian

Franklin Regional Council of Governments



Financing the Project

A town plan for financing the regional network project should take shape as a 6-year forecast.

Town Costs

Town Cost Range
\$690,000 to \$8,350,000

It is virtually certain that all towns will eventually need to borrow money to meet this capital cost.

Decisions whether to issue notes, when to issue bonds and, in each case, for how long are driven by:

When project funds are needed and in what amount

Annual interest and debt service costs

Revenue Sources

Projected property tax impacts

How Much & When

As a starting point, expect the regional broadband project funding needs to parallel the typical major town capital project:

Town Meeting authorizes borrowing for total project cost

At project start and during construction, town issues notes for a portion of the total cost; pays interest only in Years 1 & 2 (current rate .05%)

Town has the option of renewing notes into Years 3-4-5; pays interest plus minimal principal (approximately 3.8% of principal in Year 3)

On project completion, town issues long-term bonds (assume interest rate 4%)

Under State Qualified Bond Program, terms up to 30 years are allowed.

Pay attention to actual borrow dates, the first payment due dates and fiscal years. If one-year notes are authorized in FY15, issued in FY16, payment is due in FY17.

Interest & Debt Service

(estimates only)

Town	Post Grant and OPM Cost	Notes Yrs 1 & 2 Interest only 0.5%	Notes Yr 3 Interest & partial prin	Bonds 4% interest 18 years	Qualified Bonds 4% interest 30 years
Alford	\$ 931,000	4,655	40,033	73,543	53,840
Ashfield	\$ 3,063,000	15,315	131,709	241,957	177,134
Becket	\$ 3,570,000	17,850	153,510	282,006	206,453
Blandford	\$ 2,213,000	11,065	95,159	174,812	127,978
Charlemont	\$ 2,242,000	11,210	96,406	177,103	129,655
Chesterfield	\$ 1,653,000	8,265	71,079	130,576	95,593
Colrain	\$ 2,935,000	14,675	126,205	231,845	169,731
Cummington	\$ 1,730,000	8,650	74,390	136,658	100,046
Egremont	\$ 1,928,000	9,640	82,904	152,299	111,496
Florida	\$ 1,269,000	6,345	54,567	100,243	73,386
Goshen	\$ 1,652,000	8,260	71,036	130,497	95,535
Hancock	\$ 1,056,000	5,280	45,408	83,417	61,069
Hawley	\$ 1,327,000	6,635	57,061	104,824	76,741
Heath	\$ 1,269,000	6,345	54,567	100,243	73,386
Hinsdale	\$ 1,901,000	9,505	81,743	150,166	109,935
Lanesborough	\$ 2,458,000	12,290	105,694	194,166	142,146
Leverett	\$ 2,149,000	10,745	92,407	169,757	124,277
Leyden	\$ 1,151,000	5,755	49,493	90,921	66,562
Middlefield	\$ 821,000	4,105	35,303	64,854	47,479
Monroe	\$ 655,000	3,275	28,165	51,741	37,879
Monterey	\$ 1,469,000	7,345	63,167	116,041	84,952

Interest & Debt Service

(estimates only)

Town	Post Grant and OPM Cost	<u>Notes</u> Yrs 1 & 2 Interest only 0.5%	<u>Notes</u> Yr 3 Interest & partial prin	<u>Bonds</u> 4% interest 18 years	Qualified Bonds 4% interest 30 years
Montgomery	\$ 930,000	4,650	39,990	73,464	53,782
Mount Washington	\$ 778,000	3,890	33,454	61,457	44,992
New Ashford	\$ 497,000	2,485	21,371	39,260	28,742
New Braintree	\$ 2,015,000	10,075	86,645	159,172	116,528
New Marlborough	\$ 2,413,000	12,065	103,759	190,611	139,544
New Salem	\$ 1,639,000	8,195	70,477	129,470	94,784
Otis	\$ 2,498,000	12,490	107,414	197,325	144,460
Peru	\$ 2,079,000	10,395	89,397	164,227	120,229
Petersham	\$ 2,567,000	12,835	110,381	202,776	148,450
Plainfield	\$ 1,292,000	6,460	55,556	102,059	74,716
Princeton	\$ 6,459,000	32,295	277,737	510,218	373,525
Rowe	\$ 1,462,000	7,310	62,866	115,488	84,548
Royalston	\$ 2,296,000	11,480	98,728	181,369	132,778
Sandisfield	\$ 2,431,000	12,155	104,533	192,033	140,585
Savoy	\$ 1,243,000	6,215	53,449	98,189	71,883
Shutesbury	\$ 1,781,000	8,905	76,583	140,687	102,995
Tolland	\$ 1,285,000	6,425	55,255	101,506	74,312
Tyringham	\$ 925,000	4,625	39,775	73,069	53,493
Warwick	\$ 1,733,000	8,665	74,519	136,895	100,220
Washington	\$ 1,012,000	5,060	43,516	79,941	58,524
Wendell	\$ 1,400,000	7,000	60,200	110,591	80,962
West Stockbridge	\$ 1,871,000	9,355	80,453	147,797	108,200
Windsor	\$ 1,623,000	8,115	69,789	128,206	93,858
Worthington	\$ 2,327,000	11,635	100,061	183,817	134,571

Revenue Sources

A TM spending article must describe the purpose of the expenditure, a specific dollar amount to be appropriated and funding source.

When the funding source is borrowing, TM must by 2/3s vote authorize the Select Board to issue notes and bonds. The article must also state how interest and principal (debt service) on any borrowing will be paid.

The article could propose raising additional tax dollars to pay debt service from Excess Levy Capacity. Or, if contingent on a Debt Exclusion, the project goes forward only if approved by a majority in a town-wide vote. Note: there is no requirement that the TM vote occurs first.

Even if a Debt Exclusion passes, the town can choose to use other funding sources to pay all or part of debt service.

Revenue Sources

Other revenue sources can help defer a tax increase, reduce borrowing amounts and pay debt service.

Annual Revenue Growth is realized through the levy limit, state aid & local receipts. If the town issues Notes in Years 1 & 2, it might absorb the low interest costs in the operating budget.

Stabilization is a non-recurring revenue best used for non-recurring costs. It might be used to cover interest and principal payments on Notes only or to reduce later bond borrowing amounts.

Free Cash is regarded as a non-recurring revenue. It might be used to cover interest and principal payments on Notes only or to reduce later bond borrowing amounts.

Revenue Sources

Excess Levy Capacity can be used to cover debt service payments on Notes or Bonds, or be used to reduce the amount borrowed. As a revenue source, it is implicitly approved when TM approves the annual budget by a majority vote. Use of excess levy capacity does not require a town-wide vote and is not constrained by Proposition 2 ½ limits.

Bonds can be issued at any time, but no later than Year 6 from the project start. Debt is not incurred and debt service is not due until 6 to 12 months after bonds are actually issued.

Use of a Debt Exclusion and/or Excess Levy Capacity results in a property tax increase. In any year that debt service payments are covered by other revenues, the town can limit the use of each and reduce taxes.

Revenue Sources

Allocation from \$40 million. The Commonwealth of Massachusetts has authorized \$40 million in bonds for the project to be issued over three years. When available, the state bond proceeds will be allocated to offset town costs.

Potential revenue from WiredWest operations. Once requisite subscription rates are reached and the regional network is in full operation, there is the potential for excess revenues, which would be redistributed to the towns.

Tax Rate / Tax Bill Impact

Tax rate impact: Debt service to be raised in tax dollars
divided by Total town assessed value
times 1000
equals Incremental tax rate increase

Tax bill impact: Property assessed value
divided by 1000
times Incremental tax rate increase
equals Tax bill increase

Note: additional steps required in towns with a split tax rate.

Tax Bill / Tax Bill Impact

Tax rate impact: \$138,204 to be raised
divided by \$129,158,979 total assessed value
times 1000
equals \$1.07 tax rate increase

Tax bill impact: \$230,000 property assessed value
divided by 1000
times \$1.07 tax rate increase
equals \$246.10 tax bill increase

Town Reference Data

(Source: State Division of Local Services)

Town	Stabilization FY14	Free cash FY14	Excess levy FY14	State aid FY14
Alford	127,046	297,038	242,052	14,104
Ashfield	217,320	322,614	1,682	274,286
Becket	492,358	196,557	128,757	253,253
Blandford	43,130	77,102	14,830	184,529
Charlemont	178,731	292,863	346,184	311,547
Chesterfield	431,690	287,592	218,262	321,044
Colrain	366,632	124,511	273,960	302,960
Cummington	595,614	238,119	37,932	200,771
Egremont	448,968	261,809	536,516	254,031
Florida	264,186	380,999	66,860	660,763
Goshen	520,336	202,804	11,794	221,444
Hancock	150,407	632,808	1,168,947	344,478
Hawley	199,102	201,738	28,620	113,122
Heath	193,814	185,621	241,227	97,012
Hinsdale	863,319	460,101	303,635	355,562
Lanesborough	623,378	348,421	162,884	1,704,785
Leyden	295,169	199,749	273,187	94,943
Middlefield	172,556	51,565	132,279	122,499
Monroe	122,651	546,508	53,589	101,210
Monterey	706,903	317,874	7,349	308,582
Montgomery	250,440	142,772	49,600	105,107
Mount Washington	543,265	94,682	37,622	295,148

Town Reference Data

(Source: State Division of Local Services)

Town	Stabilization FY14	Free cash FY14	Excess levy FY14	State aid FY14
New Ashford	74,105	255,244	50,874	253,939
New Braintree	291,952	(710)	279,162	187,376
New Marlborough	199,482	630,237	55,867	106,697
New Salem	320,631	595,167	19,185	168,593
Otis	688,037	556,234	68,653	192,979
Peru	251,728	98,772	215,812	260,919
Petersham	549,892	189,100	122,754	1,011,214
Plainfield	284,159	210,823	38,436	130,195
Princeton	804,185	683,879	478,590	438,090
Rowe	1,556,425	191,289	1,974	216,610
Royalston	117,268	0	1,311	250,693
Sandisfield	884,941	634,431	3,592	119,160
Savoy	234,090	122,641	207,728	753,072
Shutesbury	414,050	1,194,211	33,992	944,182
Tolland	64,204	501,439	171	83,813
Tyringham	157,820	238,408	19,140	61,917
Warwick	124,705	35,922	175,724	234,323
Washington	83,930	110,781	25,923	166,363
Wendell	665,348	123,239	325,175	314,158
West Stockbridge	222,359	199,282	1,073,828	112,051
Windsor	290,378	122,101	19,234	206,094
Worthington	848,373	229,675	209,985	225,579

Last Mile Operating Model: Greg Richardson Civitium



Revenue Model - Concepts and Terminology

MARKET

Addressable Market	Premises
Alford	342
Ashfield	877
Becket	1,728
Blandford	574
Charlemont	681
Chesterfield	591
Colrain	797
Cummington	485
Egremont	921
Florida	356
Goshen	598
Hancock	534

The residential **Market** consists of 44 Towns and 26,981 Premises.

*Preliminary, subject to change

CUSTOMER

	51			
	40%	50%	65%	80%
Cummington	194	242	315	388
Egremont	368	460	598	736
Florida	142	178	231	284
Goshen	239	299	388	478
Hancock	213	267	347	427
Hawley	79	99	128	158
Heath	268	335	435	536
Hinsdale	453	566	736	906
Lanesborough	591	739	960	1,182

A **Customer** is a household that subscribes to ANY bundled or discrete **Product(s)**.

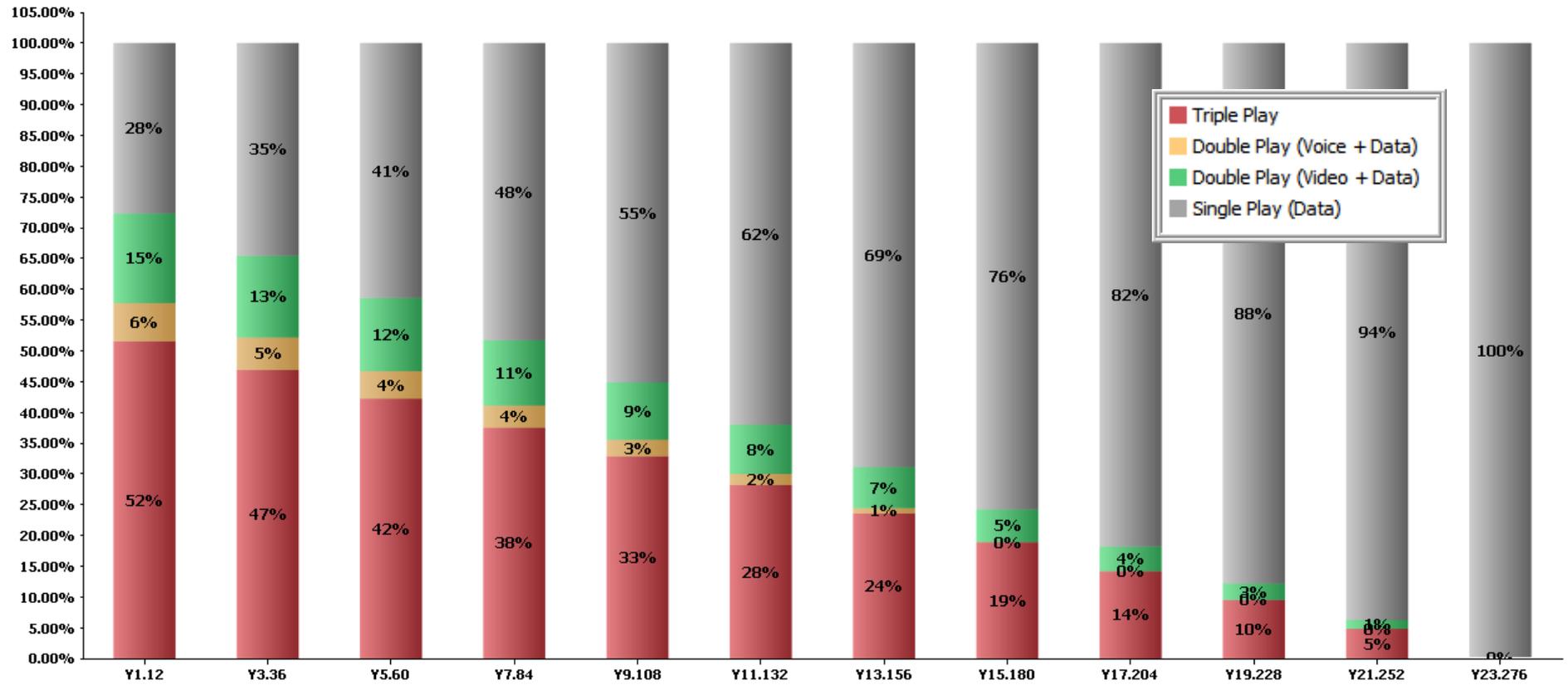
The number of **Customers** is determined by the **Market** and an **Uptake Rate**.

PRODUCT/PRICING

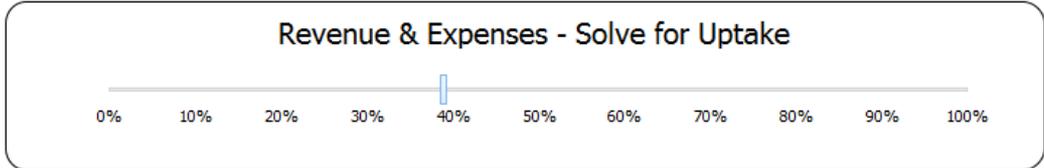
		Starting Price
Triple Play	25	\$ 118.00
	50	\$ 137.00
	100	\$ 155.00
Double Play (Voice + Data)	1000	\$ 174.00
	25	\$ 61.00
	50	\$ 80.00
Double Play (Video + Data)	100	\$ 99.00
	1000	\$ 118.00
	25	\$ 107.00
Single Play (Data)	50	\$ 126.00
	100	\$ 145.00
	1000	\$ 164.00
Single Play (Data)	25	\$ 49.00
	50	\$ 69.00
	100	\$ 89.00
	1000	\$ 109.00

Product pricing* is set based on bundles (data, voice and video) and **Data Tiers** (speeds).

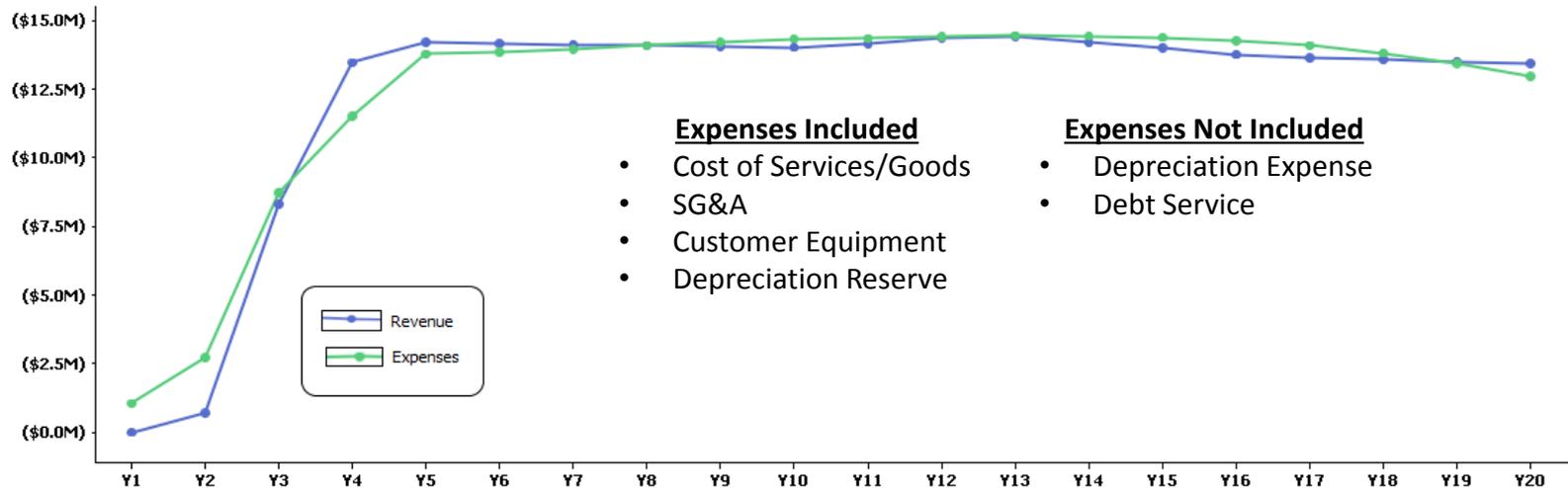
Bundle Mix Over Time



44-Town Scenario



~39% Uptake Required to Meet Normal Operating Expenses



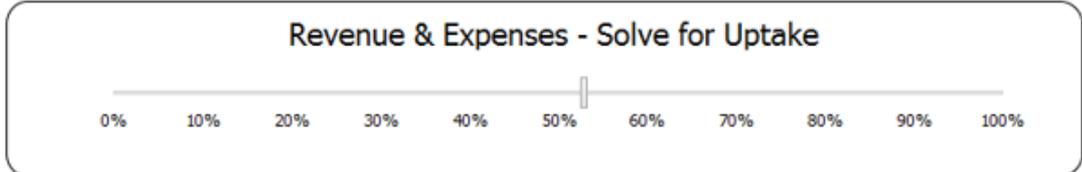
Expenses Included

- Cost of Services/Goods
- SG&A
- Customer Equipment
- Depreciation Reserve

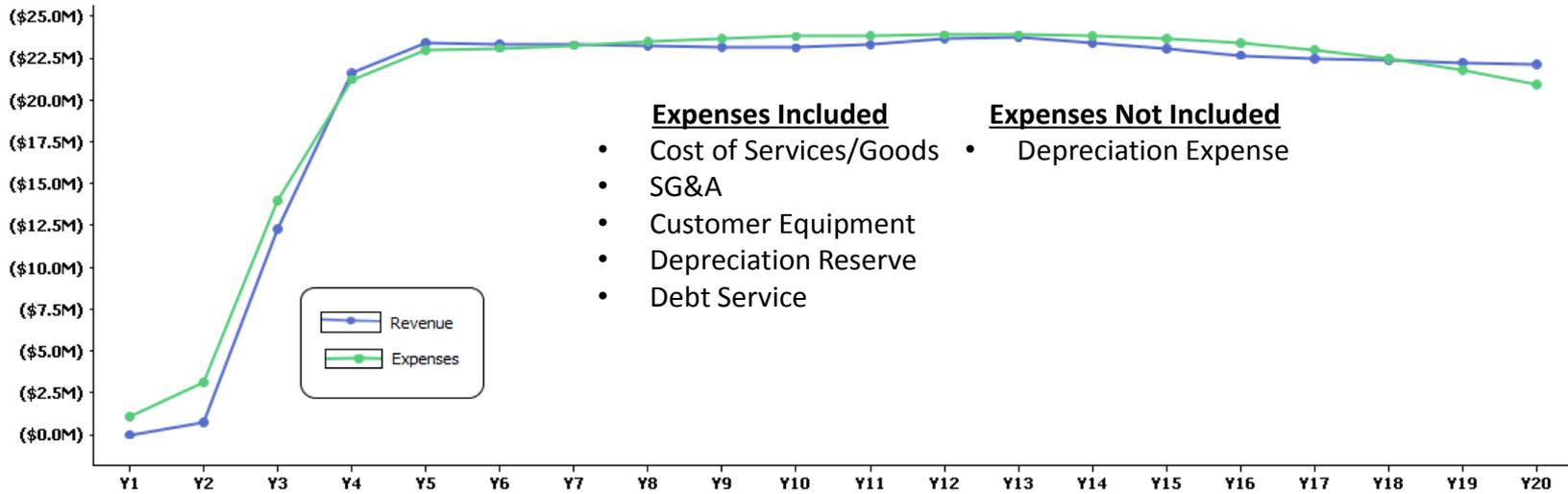
Expenses Not Included

- Depreciation Expense
- Debt Service

44-Town Scenario



~53% Uptake Required to Meet Normal Operating Expenses + Debt Service

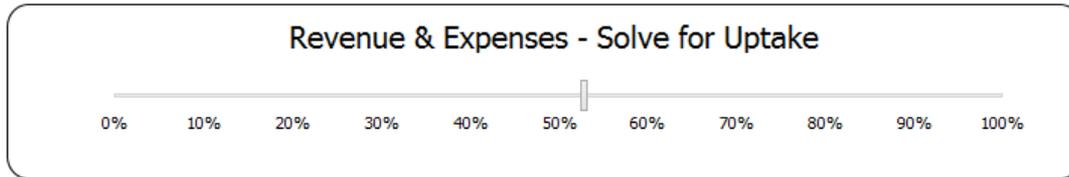


- | | |
|--|--|
| <p>Expenses Included</p> <ul style="list-style-type: none"> • Cost of Services/Goods • SG&A • Customer Equipment • Depreciation Reserve • Debt Service | <p>Expenses Not Included</p> <ul style="list-style-type: none"> • Depreciation Expense |
|--|--|

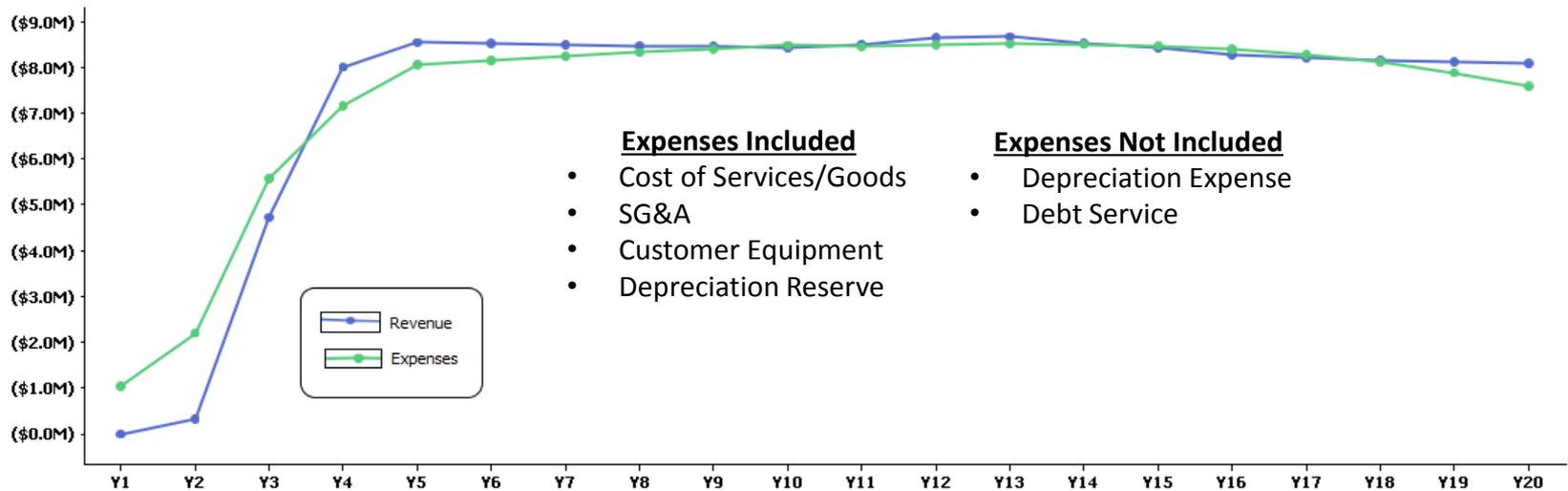
22-Town Scenario

- ✓ Alford
- ✓ Ashfield
- ✓ Blandford
- ✓ Chesterfield
- ✓ Cummington
- ✓ Florida
- ✓ Hancock
- ✓ Heath
- ✓ Lanesborough
- ✓ Middlefield
- ✓ Monterey
- ✓ Mount Washington
- ✓ New Braintree
- ✓ New Salem
- ✓ Peru
- ✓ Plainfield
- ✓ Rowe
- ✓ Sandisfield
- ✓ Shutesbury
- ✓ Tyringham
- ✓ Washington
- ✓ West Stockbridge

22-Town Scenario



~53% Uptake Required to Meet Normal Operating Expenses



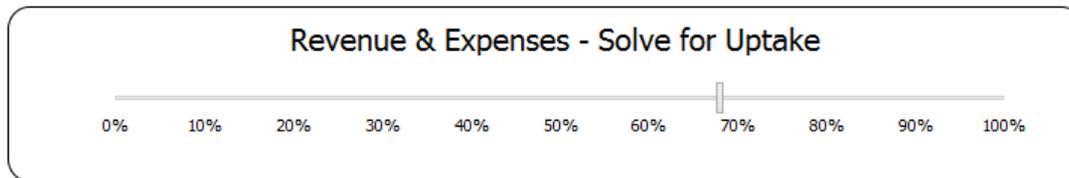
Expenses Included

- Cost of Services/Goods
- SG&A
- Customer Equipment
- Depreciation Reserve

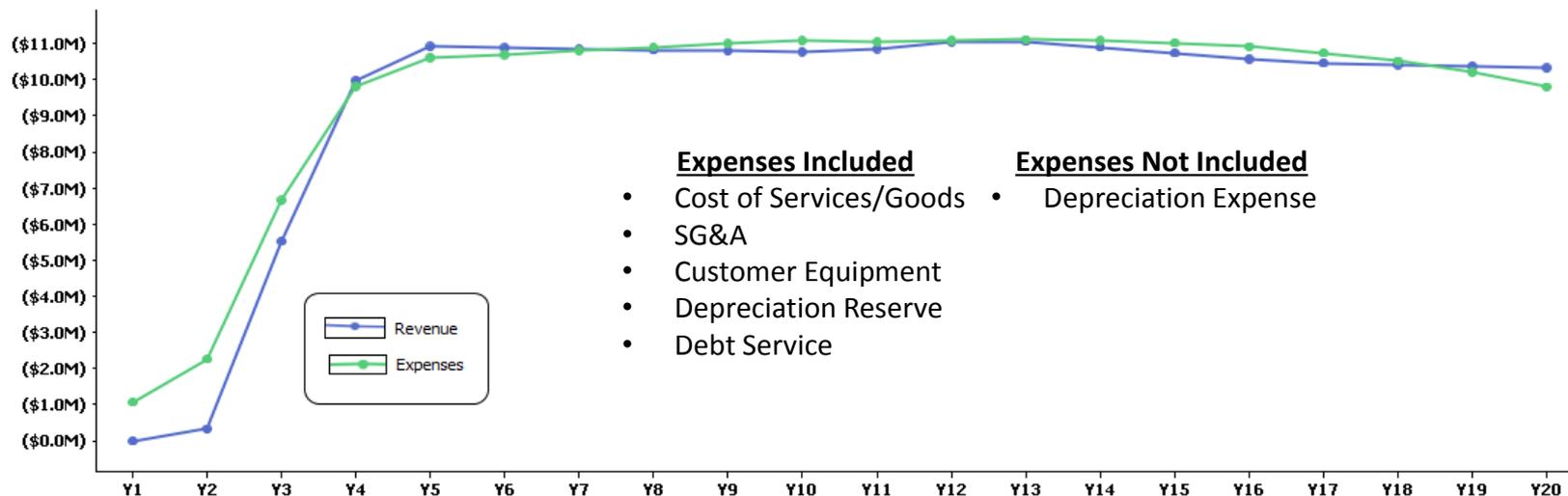
Expenses Not Included

- Depreciation Expense
- Debt Service

22-Town Scenario



~68% Uptake Required to Meet Normal Operating Expenses + Debt Service



Expenses Included

- Cost of Services/Goods
- SG&A
- Customer Equipment
- Depreciation Reserve
- Debt Service

Expenses Not Included

- Depreciation Expense



THANK YOU.
Questions?

