

Alewife Working Group #7

March 9, 2017



ENVISION CAMBRIDGE

Agenda

- **Recap of Alewife Scenarios**
 - Citywide and Alewife vision
 - Comparison of scenarios
 - What to consider when evaluating impacts
- **Impacts and Analysis**
 - Environment
 - Mobility
 - Housing, Jobs, and Fiscal Impacts
- **Discussion and next steps**



What we want to be:

“Cambridge is a forward-thinking, welcoming, and diverse city. We enjoy a high quality of life and thrive in a sustainable, inclusive, and connected community.”

“Alewife should be a sustainable, resilient, mixed-used district with convenient and safe connections within the neighborhood and to the rest of the city along with amenities that support interaction and social ties among its residents.”

Note: Vision statement developed from public workshop feedback, comments from Alewife Working Group and EC Advisory Committee, and general feedback from the Mobile Engagement Station, online surveys, and other engagement activities and workshops

Alewife Planning

What is a scenario?

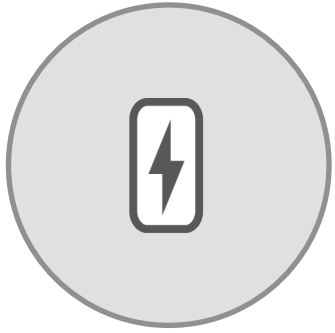
Planning scenarios are ways of envisioning multiple futures. Different inputs—such as density, land use, and the street network—can produce different outcomes. The scenarios will guide decisions about future land use, regulations, and economic development strategies.

How will Alewife scenarios inform the citywide plan?

The Alewife scenarios will inform the planning for the rest of the city. For example, if industrial uses are deemed more desirable than housing in Alewife, then the citywide plan might encourage more housing along the corridors.

The draft of the Alewife plan is expected early summer 2017

Key factors to consider when evaluating scenarios



Environment

- Resilience
- Energy and missions
- Materials & waste



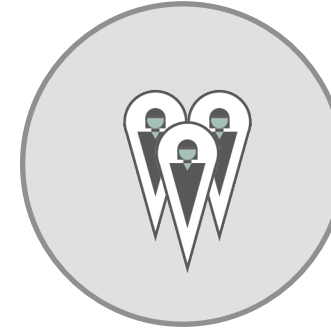
Mobility

- Vehicular trips
- Transit trips
- Active transportation



Housing

- Housing units
- Affordable units



Jobs

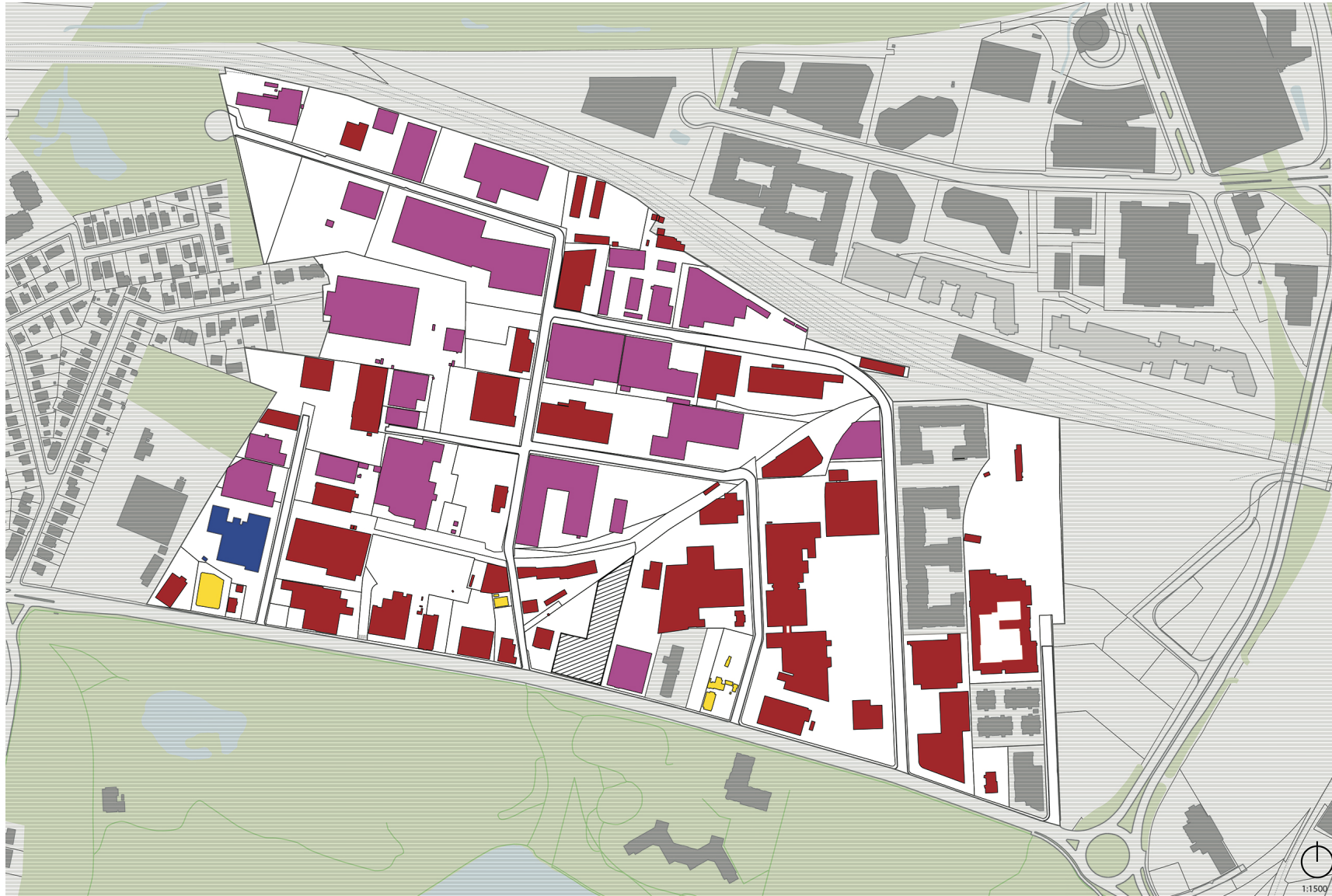
- Commercial space and jobs



Tax revenue and fiscal impacts

- Tax revenue of commercial compared to residential development
- Impacts of growth on City's tax base

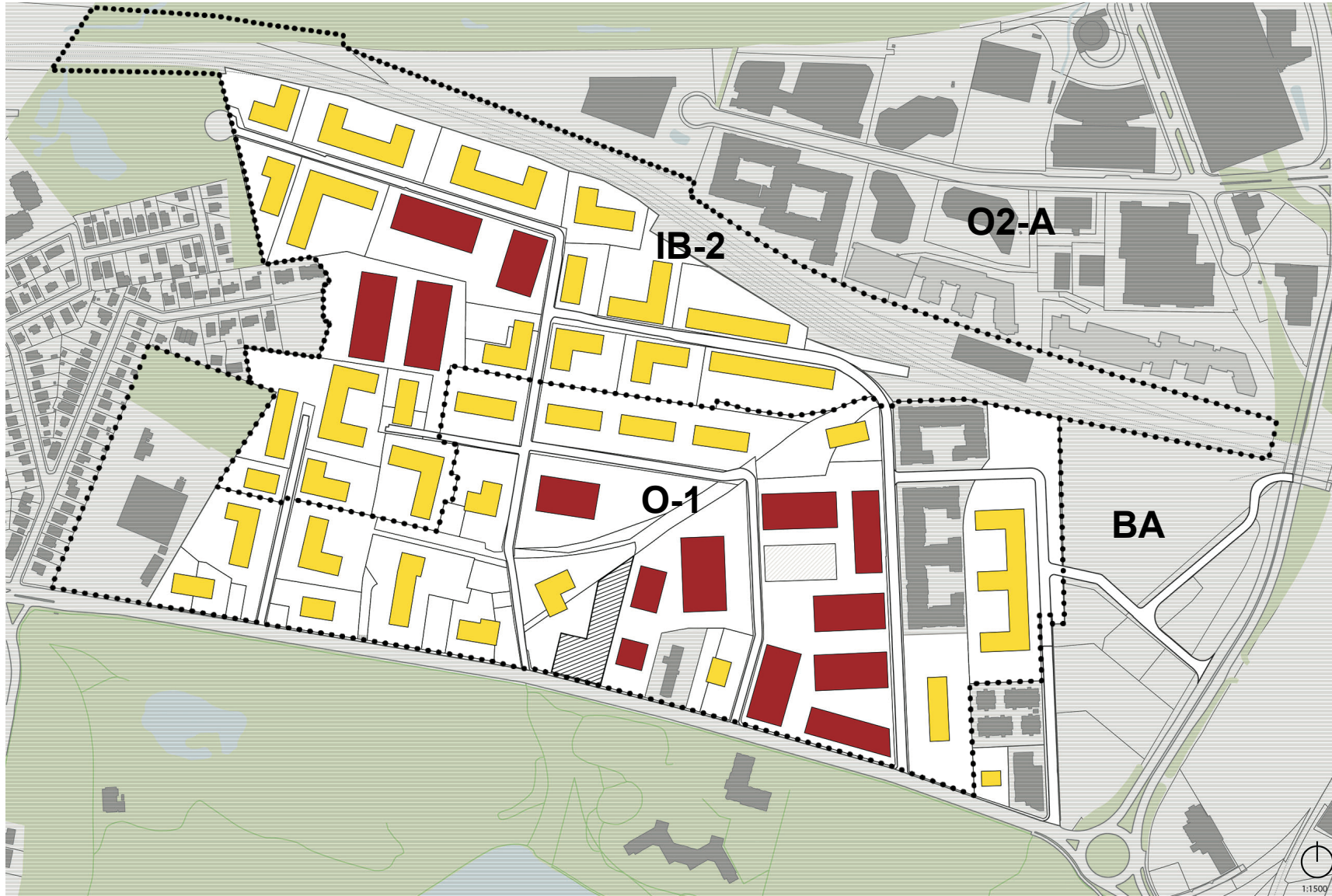
Existing Land Use



District FAR = 0.61

- Educational
- Industrial
- Commercial
- Residential
- ▨ Parcels less likely to be developed
- Existing Development
- Permitted Projects
- ▨ Future Projects

Baseline: Testing capacity and urbanism under current zoning









Zoning Summary

IB-2: 15' front setback with no required rear or sideyards. Under special permit:

- Max. FAR: 1.5
- Max. Height Non-residential: 55'
- Max. Height Residential: 65'

O-1: All setback determined by formula relating to the building's dimensions. Under special permit:

- Max. FAR Non-Residential: 1.5
- Max. FAR Residential: 2.0
- Max. Height Non-residential: 70'
- Max. Height Residential: 85'

-  Commercial
-  Residential
-  Parcels less likely to be developed
-  Existing Development
-  Permitted Projects
-  Future Projects

How much of the Quadrangle is likely to change by 2030?

Based on an analysis of past building trends in Alewife, we estimate that about 60% of the total projected development in the Quadrangle will be realized by 2030.

Baseline Scenario	60% buildout
Housing	1,700 units
Office / lab space	1.05m SF
Ground floor retail	-
Industrial	-
District FAR	~1.30
* Does not include existing or permitted developments	



Scenario Development

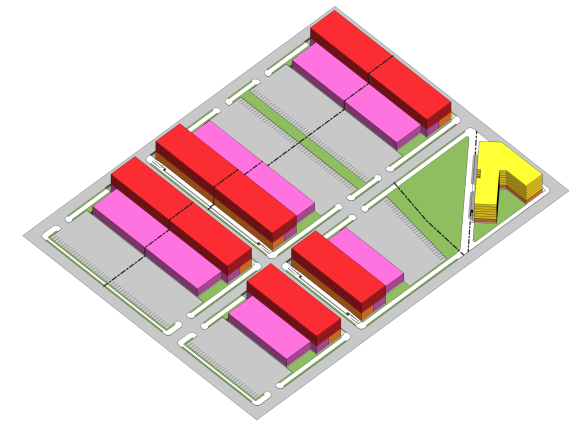
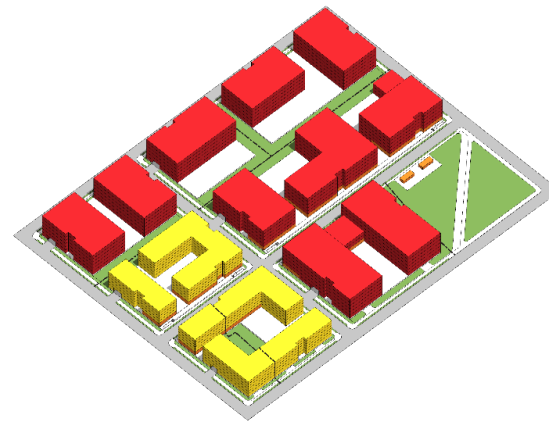
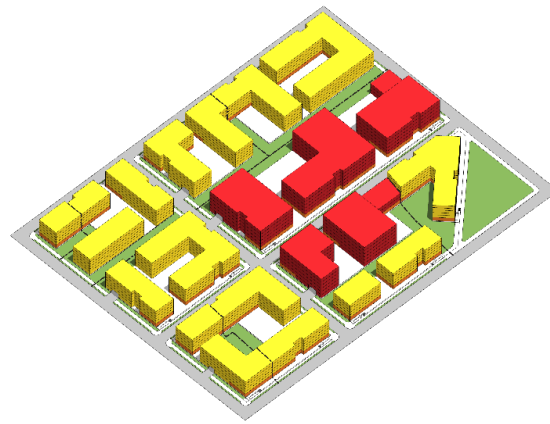
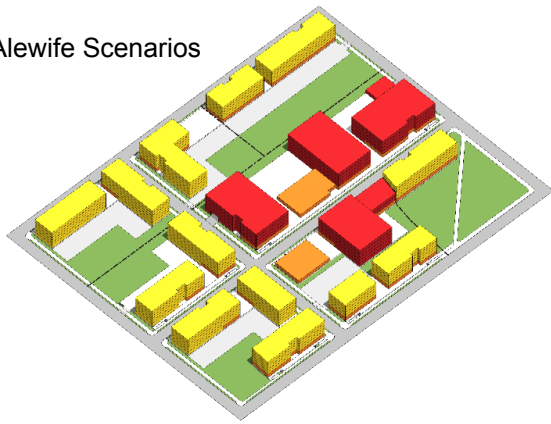
Goals:

Test the implications of planning choices and enable a discussion about tradeoffs.

Methodology:

Scenarios are structured “thought experiments” backed by data-driven assumptions and tested through analytical frameworks.

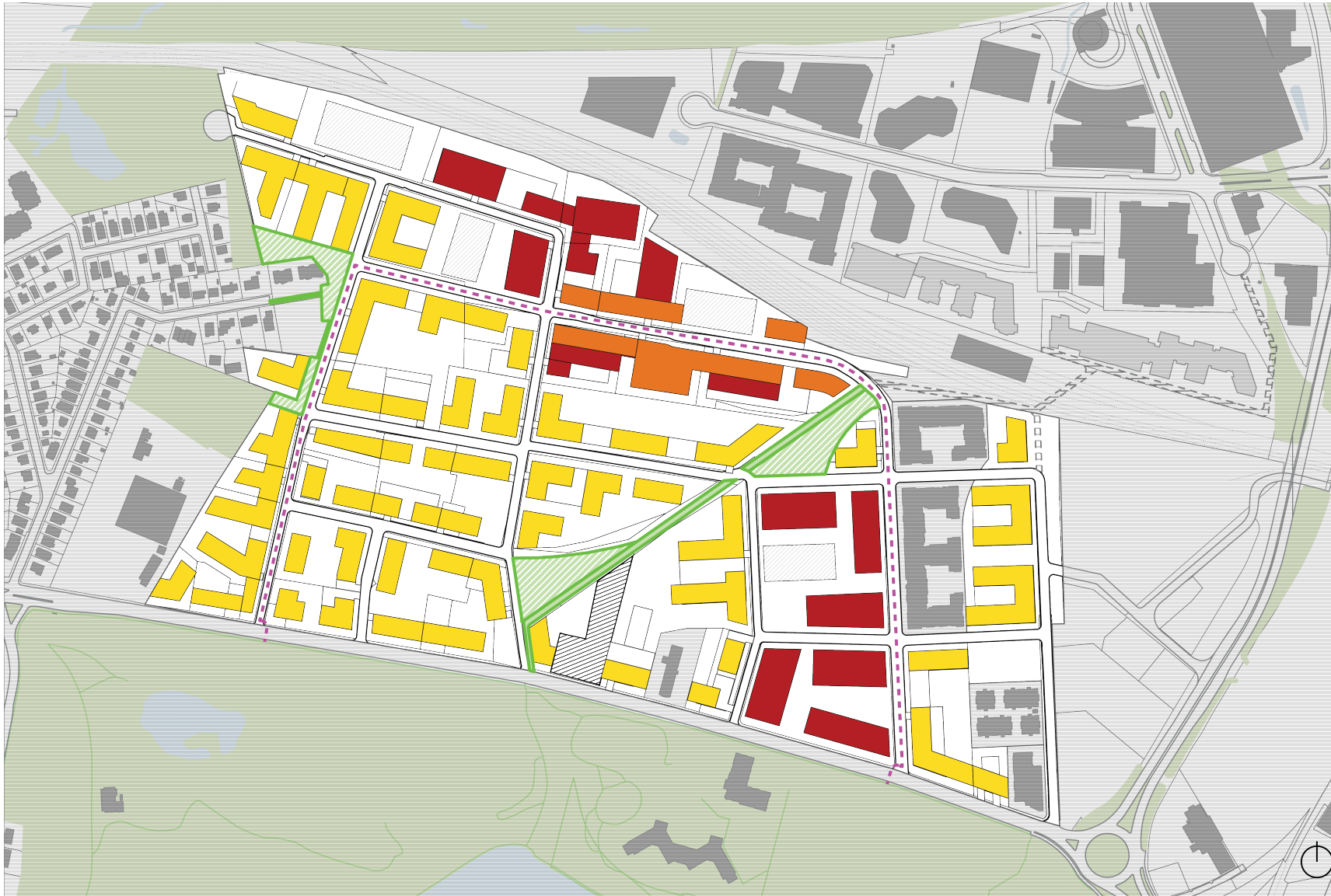
Optimized Baseline	Mixed-use Residential	Mixed-use Commercial	Mixed-use Industrial
<ul style="list-style-type: none">• Same use-mix as the Baseline: 2/3 Residential and 1/3 Commercial• Revised setback requirements to improve the urbanism and increase flood resiliency	<ul style="list-style-type: none">• Same use-mix and urban design/resiliency approach as the Optimized Baseline• Increased densities• Increase the housing supply (market-rate and affordable)	<ul style="list-style-type: none">• Same urban design/ resiliency approach and densities as the Mix-use Residential• Use-mix favors Commercial: 2/3 Commercial and 1/3 Residential• Increase commercial tax base and minimize residents in the flood plain.	<ul style="list-style-type: none">• Density same as Baseline• Same resiliency approach as other scenarios• Provide low-barrier-to-entry jobs for residents• Provide space for fabrication and maker businesses• Minimize residents in the floodplain



Optimized Baseline	Mixed-use Residential	Mixed-use Commercial	Mixed-use Industrial
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Optimized Baseline

Better Urbanism than Baseline

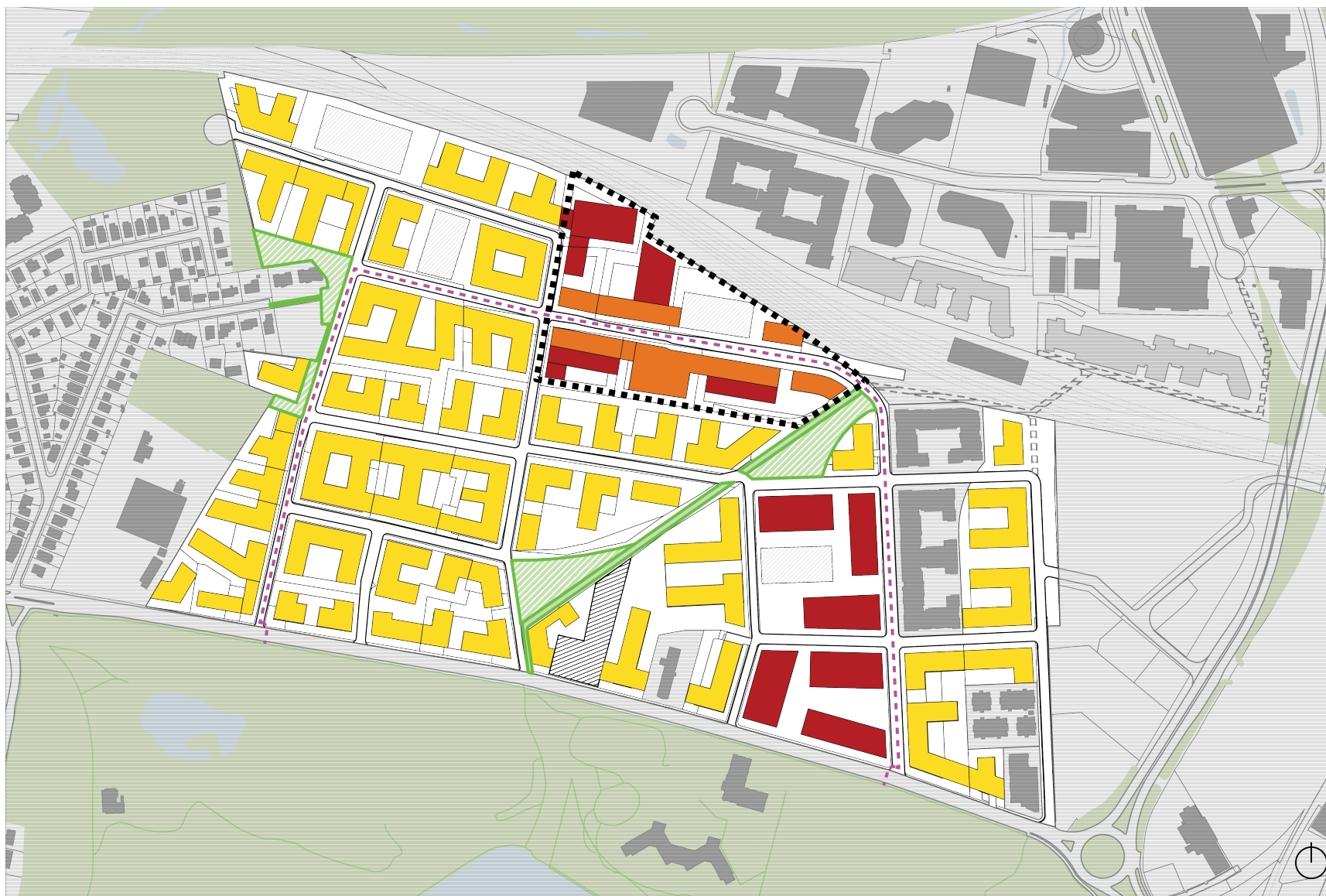


Development yields	60% buildout
New housing	1,980 units
Office / lab space	906,300 SF
Ground floor retail	75,000 SF
District FAR based on 100% build-out	~1.50
Existing housing	630 units
Housing in the pipeline	160 units

- Retail (Mixed-use)
- Commercial
- Residential
- New Bicycle/Pedestrian Connections
- ⋯ Bicycle Lanes
- ▨ Open Space

Mixed-use Residential

Increase Housing Supply (Market-rate & Affordable)



Development yields	60% buildout
New housing (with optional HRO)	2,660 units (+ 525 units)
Office / lab space (with optional HRO)	1.5m SF (+230,000 SF)
Ground floor retail	75,000 SF
District FAR based on 100% build-out	~2.05 ~2.37w/HRO
Existing housing	630 units
Housing in the pipeline	160 units

- Optional high-rise overlay
- Retail (Mixed-use)
- Commercial
- Residential
- New Bicycle/Pedestrian Connections
- Bicycle Lanes
- Open Space

Mixed-use Commercial

Maintain Tax Base Balance, Minimize Residents in Flood Plain



Development yields	60% buildout
New housing (with optional HRO)	1,360 units (+ 184 units)
Office / lab space (with optional HRO)	3.5m SF (+ 500,000 SF)
Ground floor retail	75,000 SF
District FAR based on 100% build-out	~2.34 ~2.64w/HRO
Existing housing	630 units
Housing in the pipeline	160 units

- Optional high-rise overlay
- Retail (Mixed-use)
- Commercial
- Residential
- New Bicycle/Pedestrian Connections
- Bicycle Lanes
- Open Space

Mixed-use Industrial

Entry-level Jobs, Maker Businesses, Minimize Residents in Flood Plain



Development yields	60% buildout
New housing	830 units
Office / lab space	1.3m SF
Ground floor retail	47,000 SF
District FAR based on 100% build-out	~1.27
Existing housing	630 units
Housing in the pipeline	160 units
<ul style="list-style-type: none"> Mixed-use light industrial, comm. above Retail (Mixed-use) Commercial Residential New Bicycle/Pedestrian Connections Bicycle Lanes Open Space 	

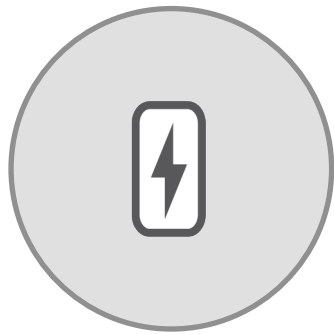
Impacts and Analysis

Analyzing each scenario allows us to evaluate its impacts and inform approaches that will help meet citywide planning objectives.

We will assess impacts on the environment, mobility, housing, the economy and the city's fiscal health.

Considerations while assessing impacts:

- Trade-offs between different use mixes and densities
- Balancing multiple concerns in relationship to citywide goals and core values
- Short-term and long-term benefits and challenges



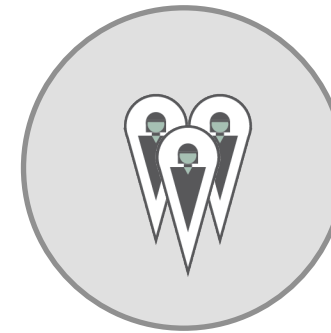
Environment



Mobility



Housing

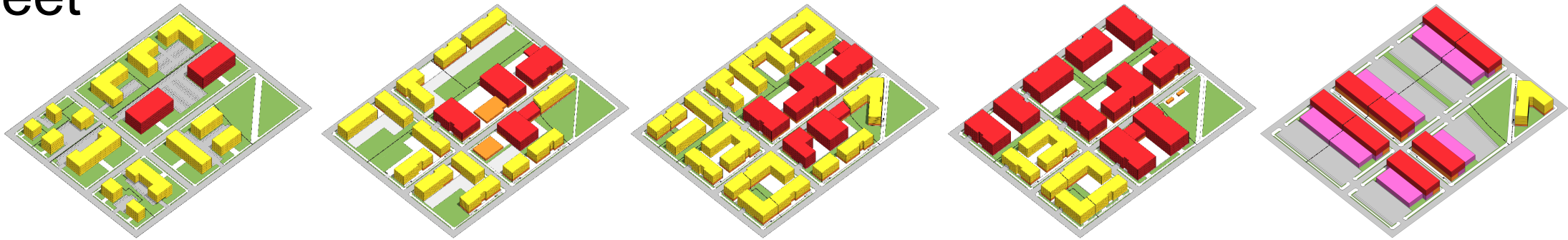


Employment



Tax revenue and
fiscal impacts

Worksheet



	Baseline	Optimized Baseline	Mixed-use Residential	Mixed-use Commercial	Mixed-use Industrial
Environment					
Mobility					
Housing					
Jobs					
Tax Revenue and Fiscal Impacts					

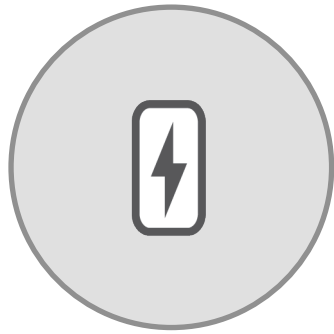
Development Summary

	Baseline	Optimized Baseline	Mixed-use Residential		Mixed-use Commercial		Mixed-use Industrial
				With optional High rise Overlay		With optional High-rise Overlay	
FAR (based on a 100% build-out)	~1.3	~1.5	~2.05	~2.37	~2.34	~2.64	~1.27

Total by 2030	2.8M SF	3.0M SF	4.3M SF	5.1M SF	5.0M SF	5.6M SF	2.6M SF
Residential	1.7M SF	2.0M SF	2.7M SF	3.2M SF	1.4M SF	1.5M SF	0.8M SF
Office / Lab	1.0M SF	0.9M SF	1.5M SF	1.8M SF	3.5M SF	4.0M SF	1.3M SF
Retail	0	75,000 SF	75,000 SF	75,000 SF	75,000 SF	75,000 SF	47,000* SF
Industrial	0	0	0	0	0	0	0.4M SF

**All retail in the mixed-use industrial scenario is proposed as accessory retail to support the primary industrial uses.*

Environmental Impacts



Environment



Mobility



Housing



Jobs

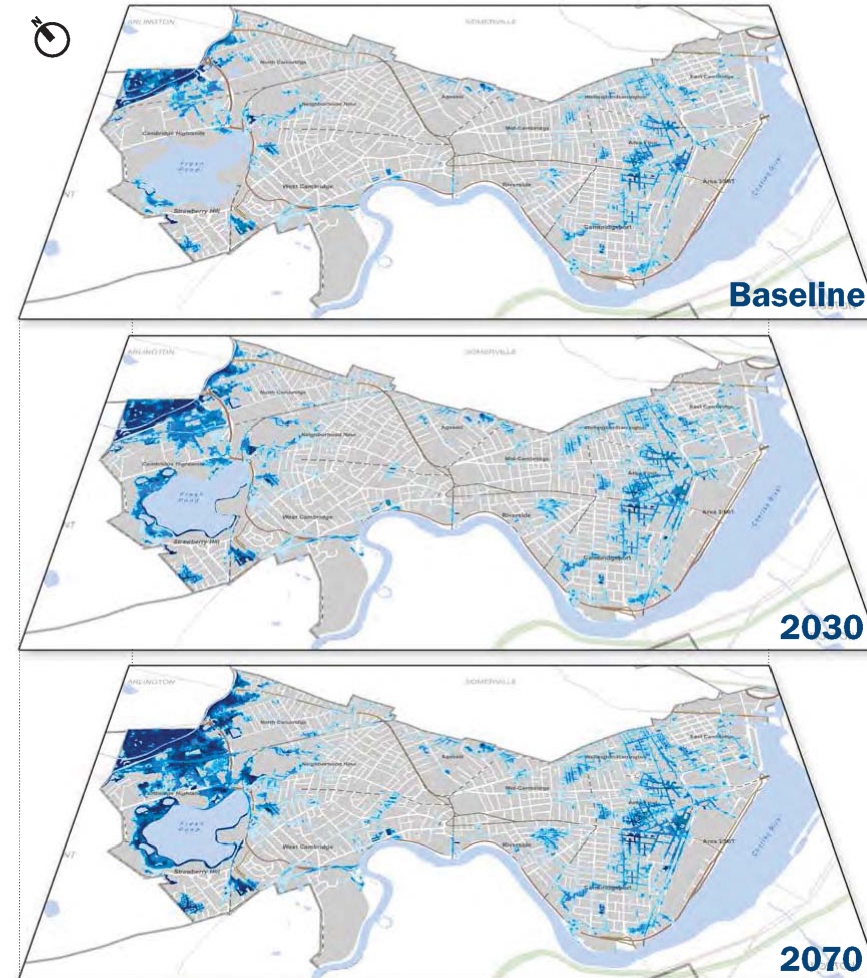


**Tax revenue and
fiscal impacts**

Environment: Flooding

Flooding projections from CCVA

- Alewife is one of the most vulnerable zones.
- The Concord-Alewife area falls in within the Mystic River watershed.
- Impervious surfaces contribute to flooding problems (surface parking).
- Precipitation-driven flooding is likely to become more frequent, expansive, and deeper.



Depth of Flooding above Ground (feet)

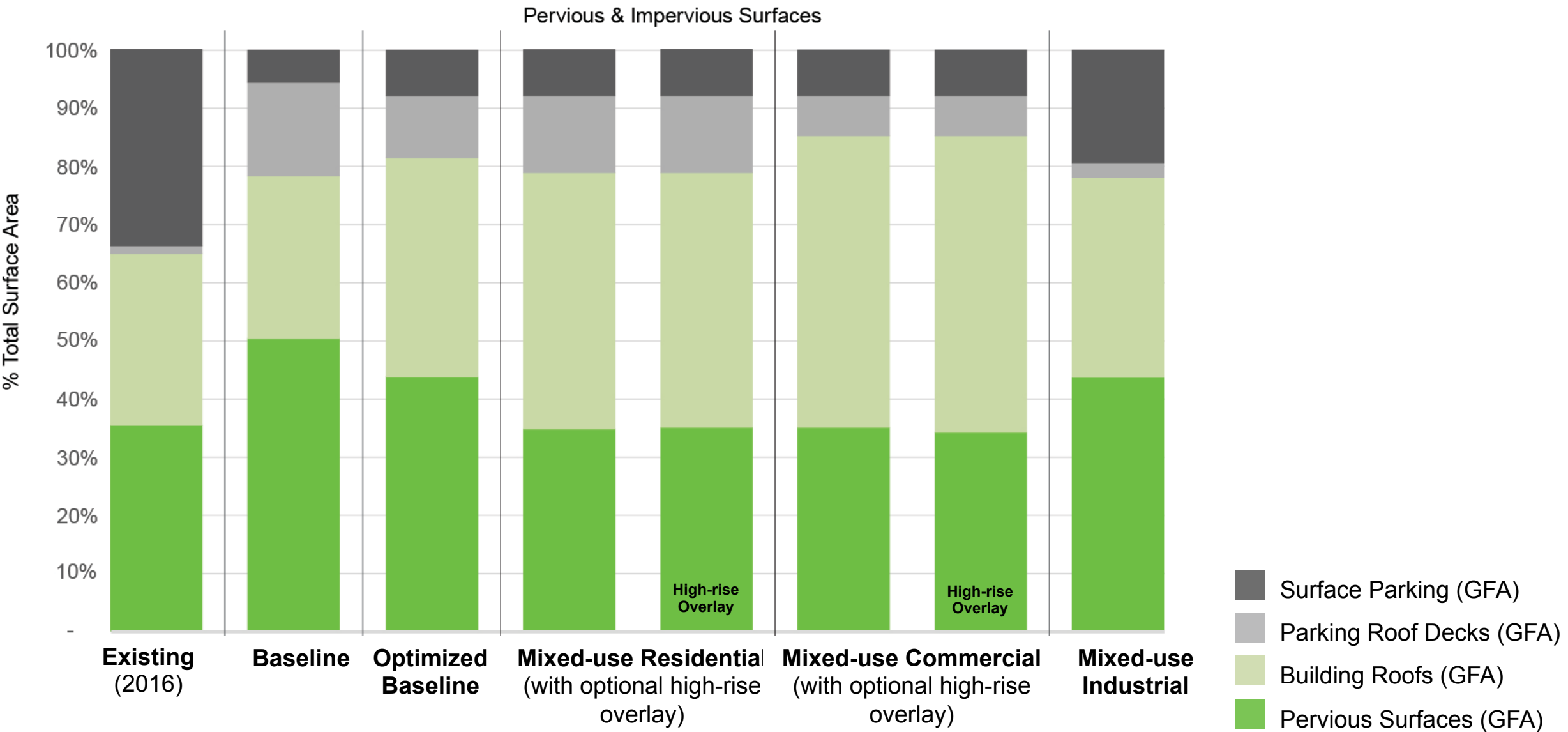


Inland Flooding – 1% Chance, 24-hour storm

(Source: Kleinfelder with manhole flooding by MWH, riverine flooding by VHB, November 2015)

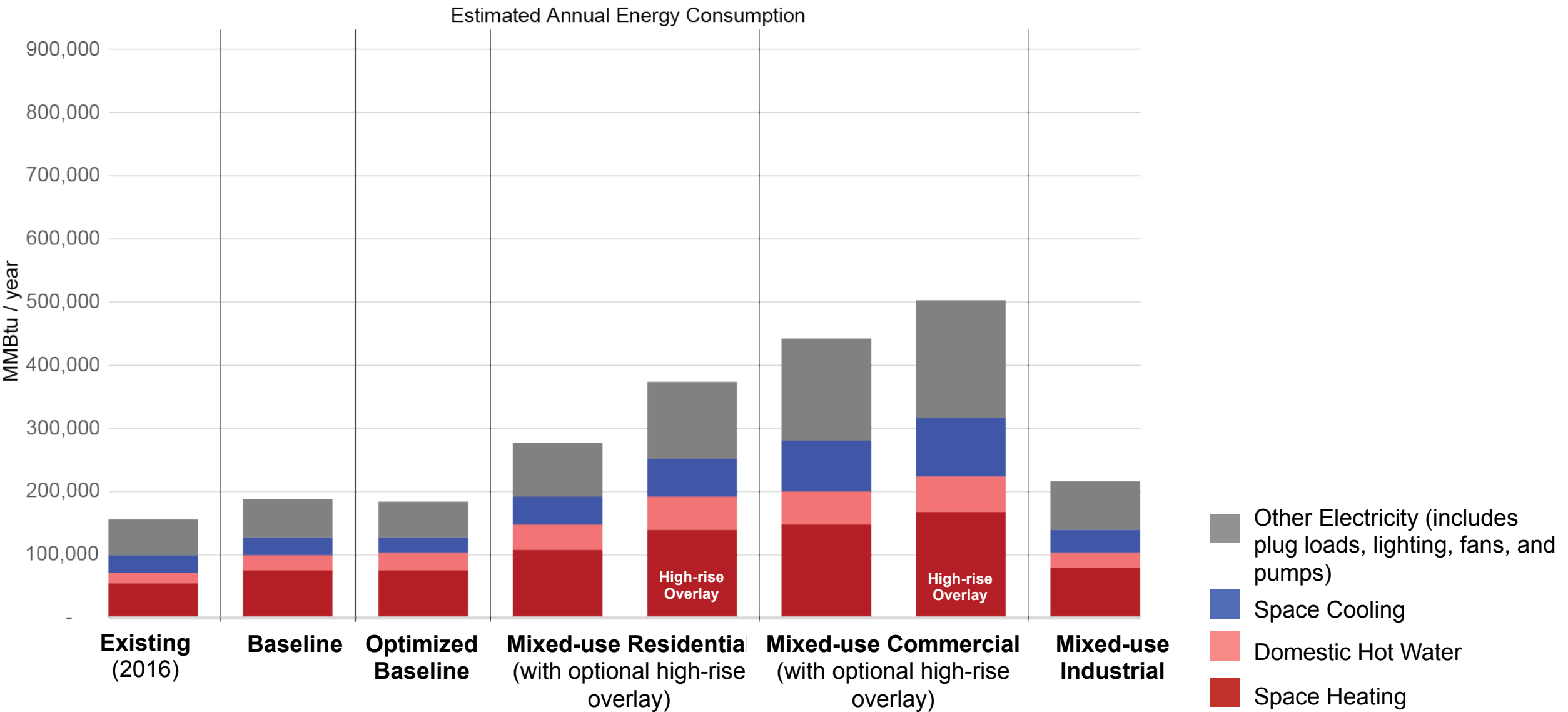
Represents a 60% Build-Out

Environment: Pervious Surfaces



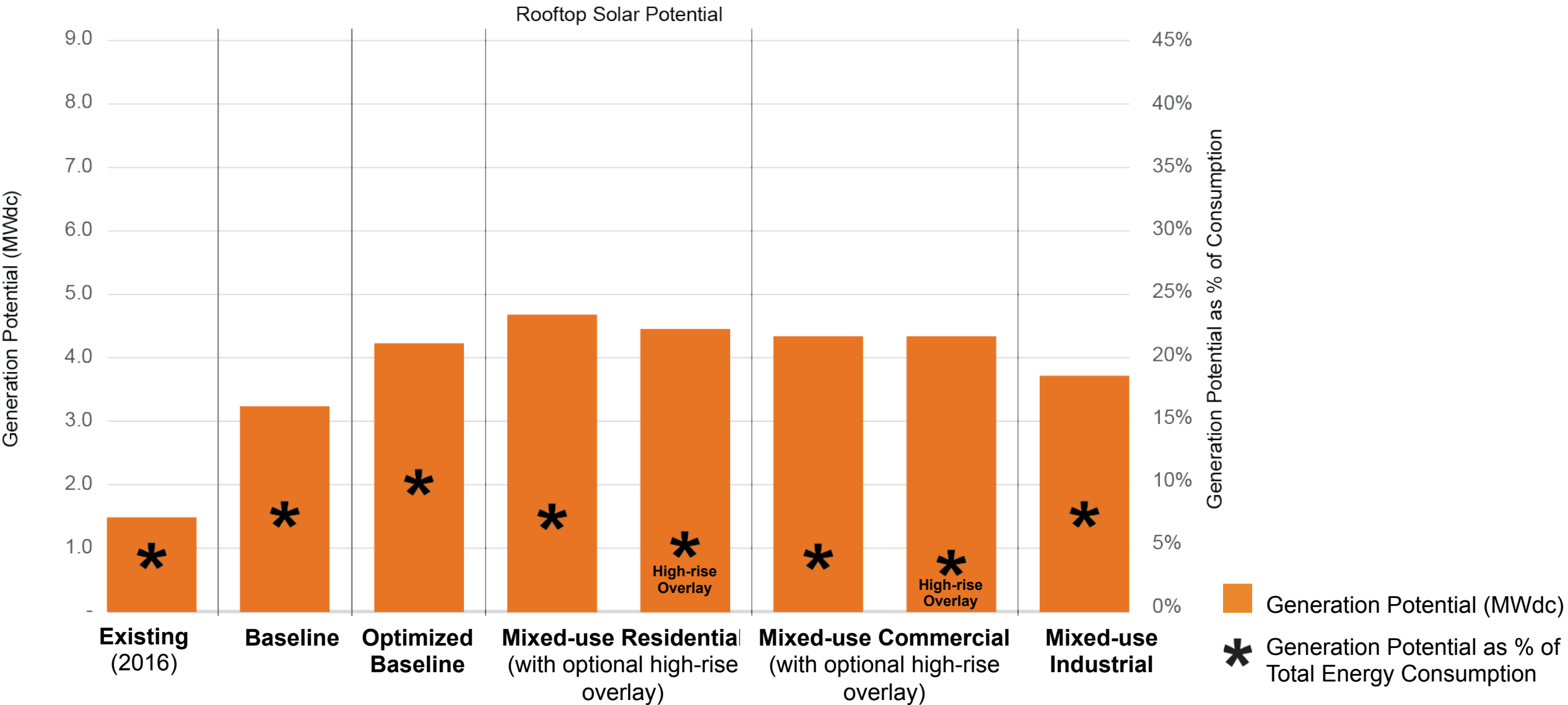
Represents a 60% Build-Out

Environment: Annual Energy Consumption



Represents a 60% Build-Out

Environment: Solar Energy Potential



Mobility Impacts



Environment



Mobility



Housing



Jobs

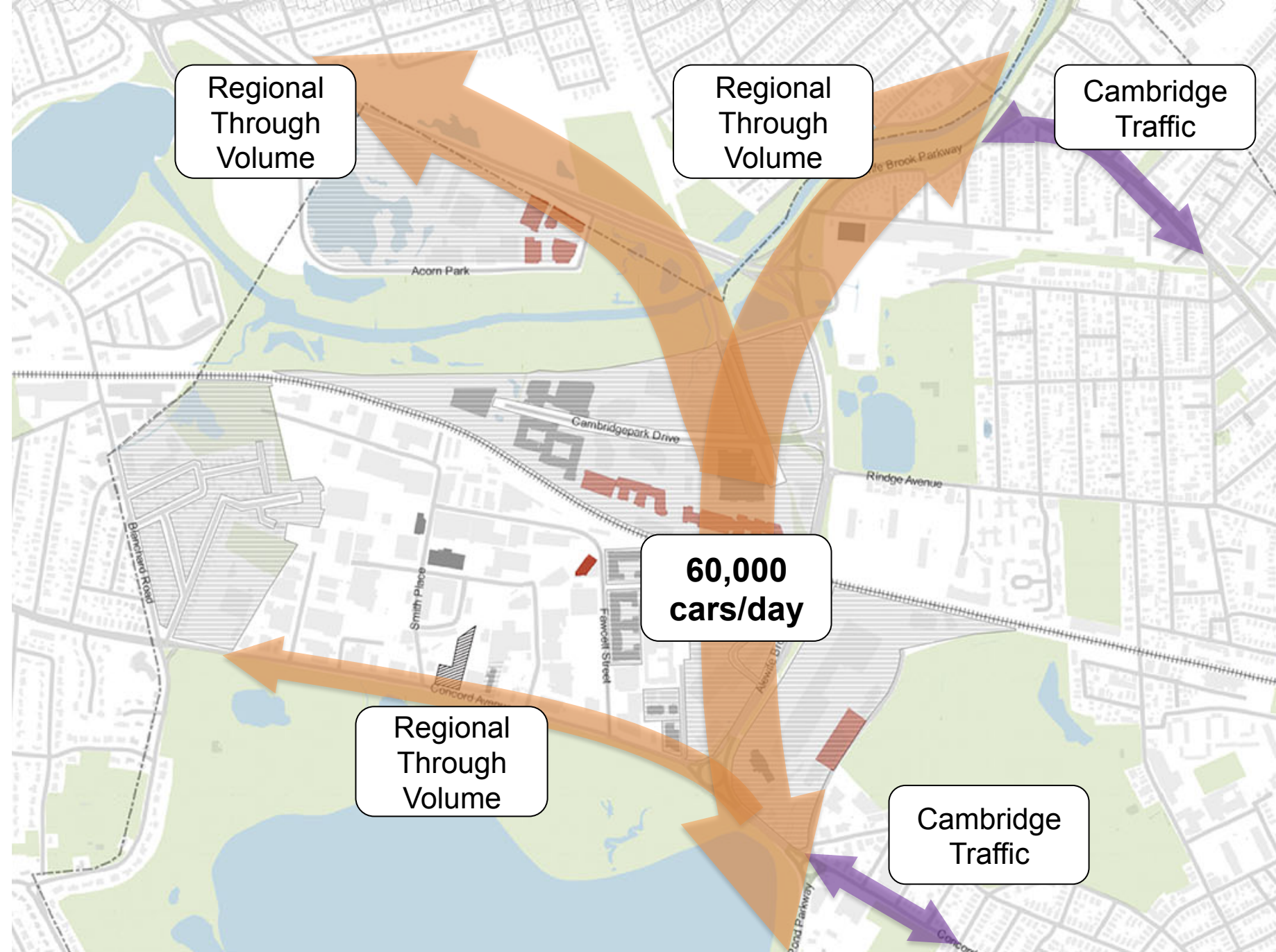


Tax revenue and
fiscal impacts

Mobility

Regional through traffic will continue to dominate Alewife

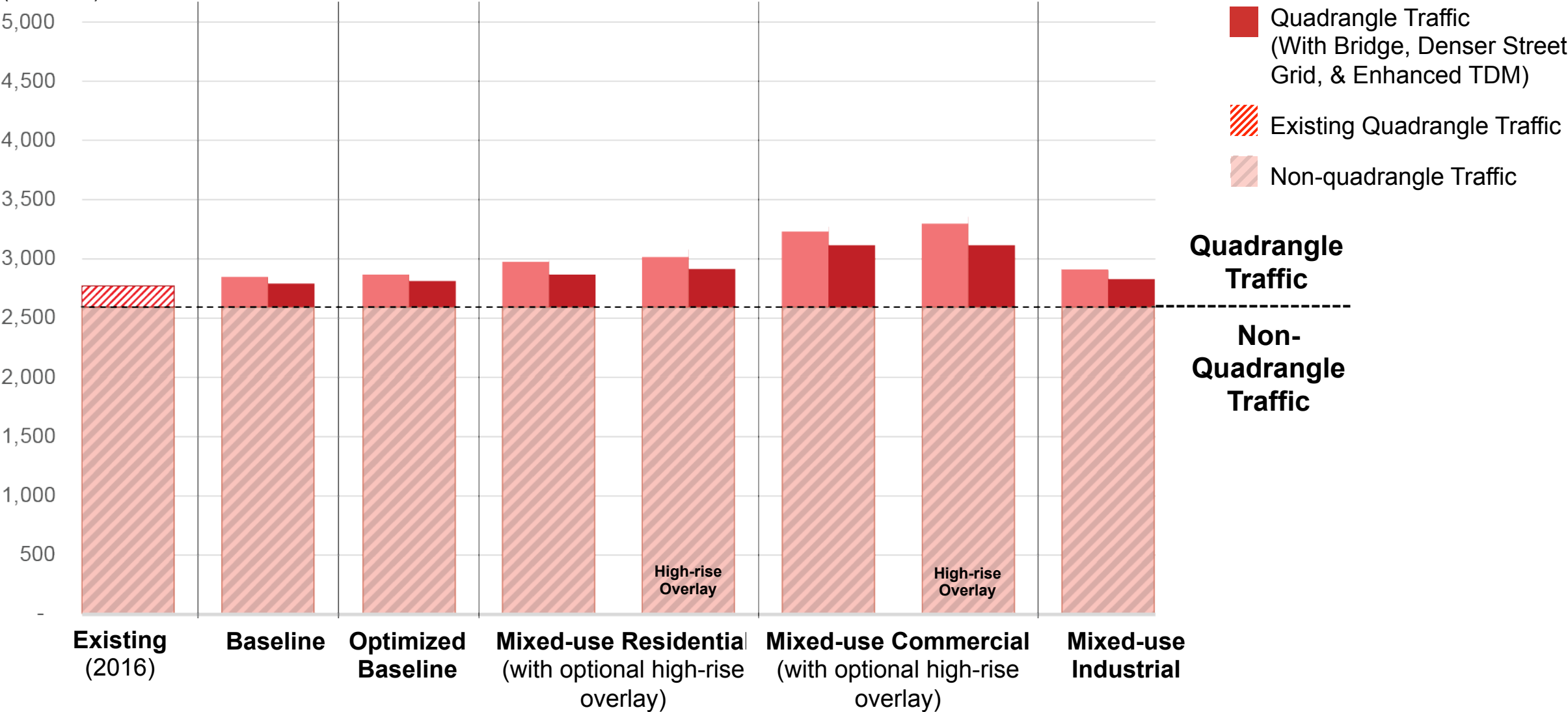
- 82% is Regional Through Volume
- Only 18% is To/From Cambridge



Represents a 60% Build-Out

Estimated Auto Trips on Alewife Brook Parkway

(PM Peak)

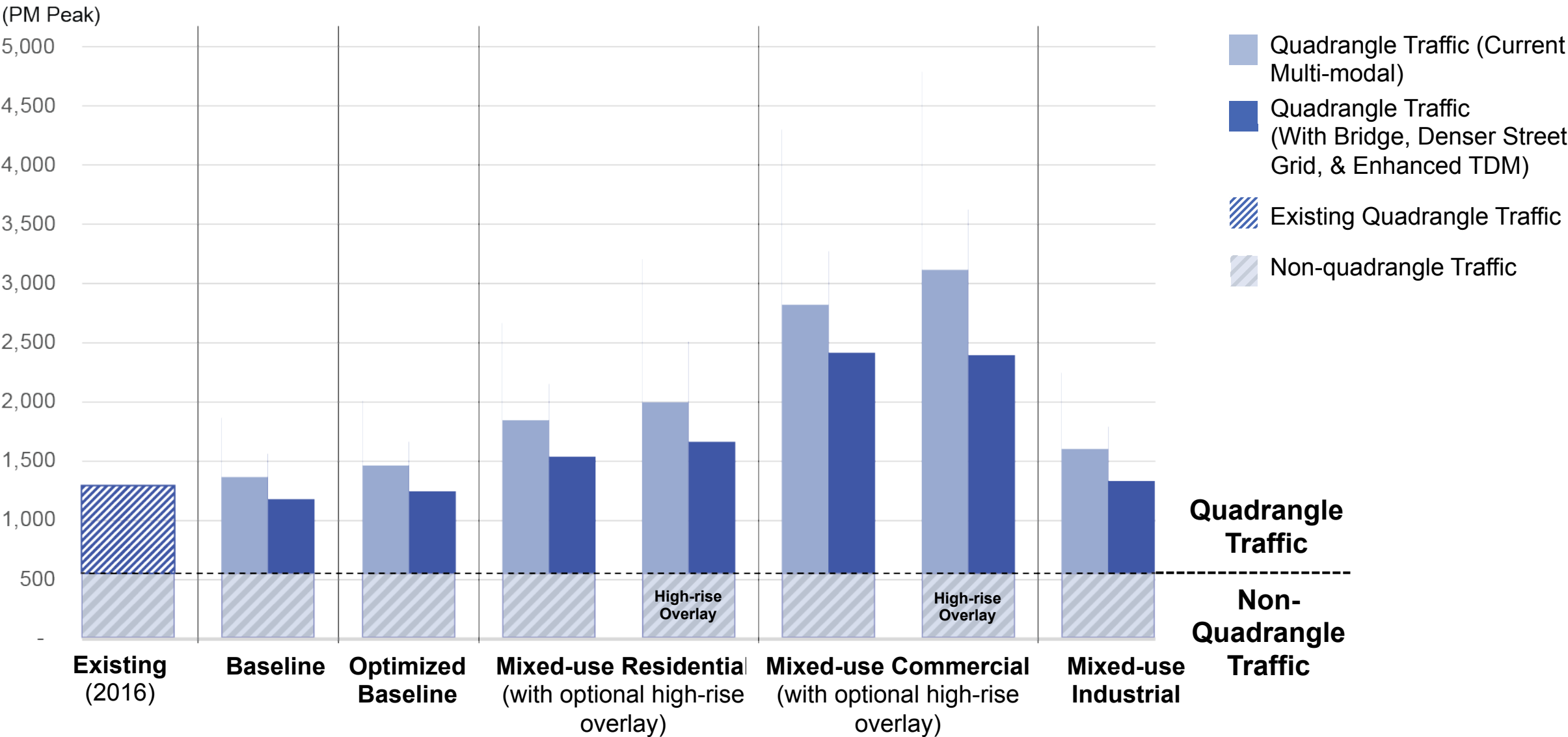


Quadrangle Traffic

Non-Quadrangle Traffic

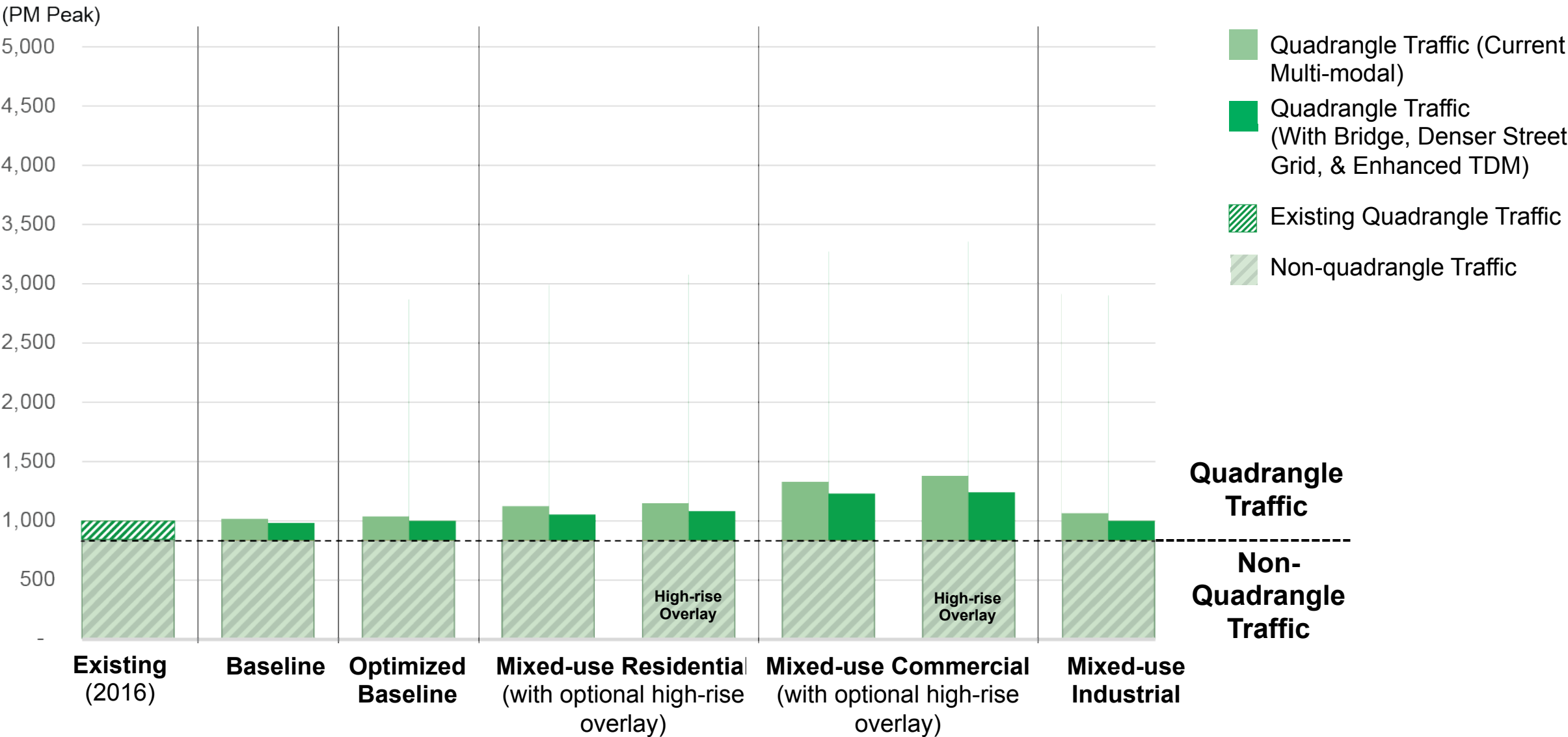
Represents a 60% Build-Out

Estimated Auto Trips on Outer Concord Avenue (from rotary to the Belmont line)



Represents a 60% Build-Out

Estimated Auto Trips on Inner Concord Avenue (eastbound from the rotary)



Housing, Employment, and Fiscal Impacts



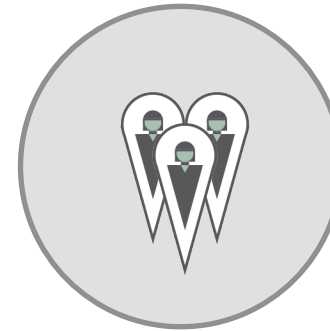
Environment



Mobility



Housing



Jobs



**Tax revenue and
fiscal impacts**

Fiscal Impact Methodology

- Fiscal impacts evaluated using average service costs and revenues per resident, public school student, and job.
- Costs and revenues are represented as annual figures for a stabilized year at 60% build-out.
- Costs reflect both annual operating and routine (non-extraordinary) capital expenditures.

Fiscal Revenues Considered

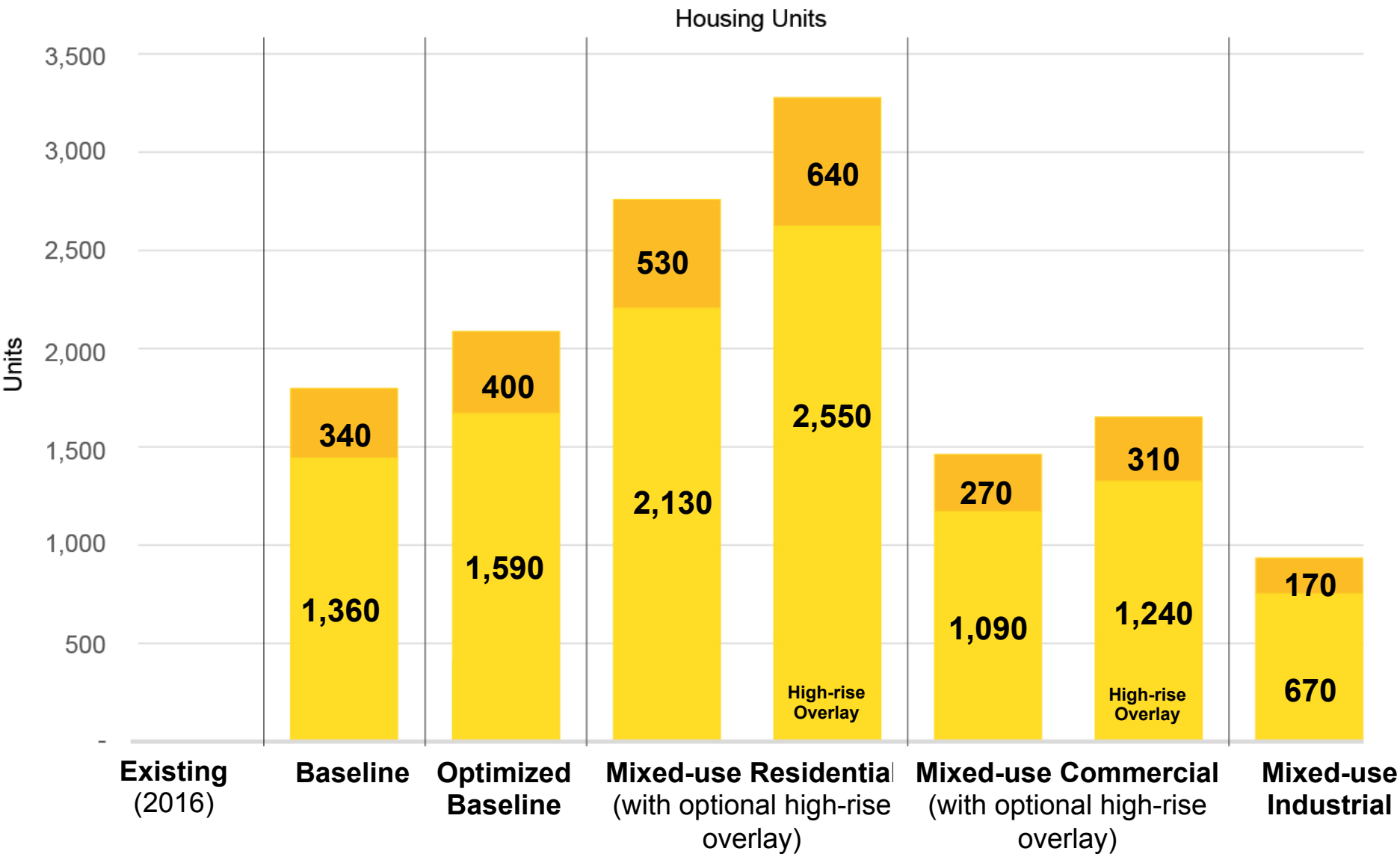
- Taxes, including real property; personal property; corporate excise; meals excise; motor vehicle excise
- Charges for services
- Fines and forfeits
- Licenses

Fiscal Costs Considered

- General administration, including City general government, community development, and human resources
- Public safety
- Education

Represents a 60% Build-Out by 2030

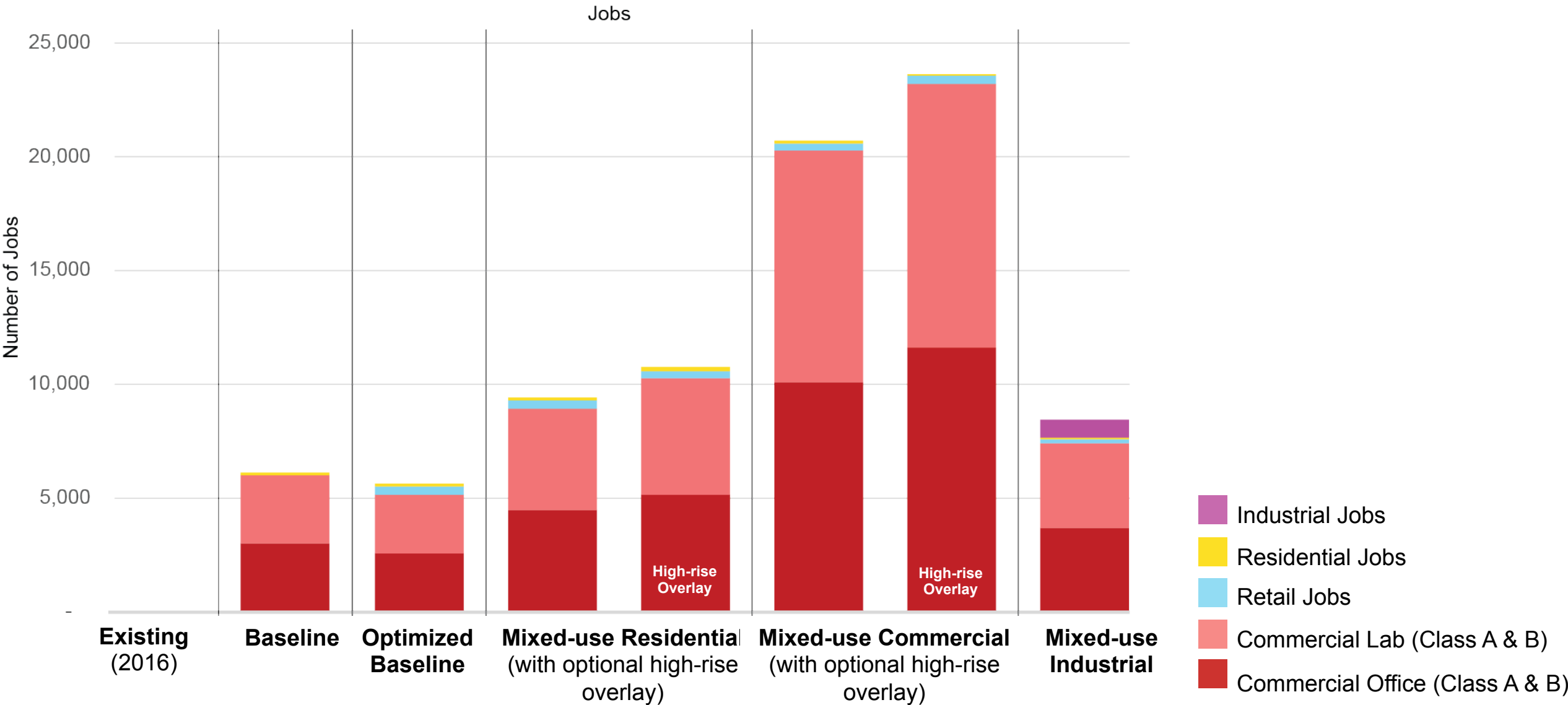
Housing Unit Breakdown By Scenario



Note: the City affordable housing development at 671 Concord Avenue is not included. The affordable units created by these scenarios are in addition to the pipeline units at 671 Concord Ave.

Represents a 60% Build-Out by 2030

Jobs Breakdown By Scenario



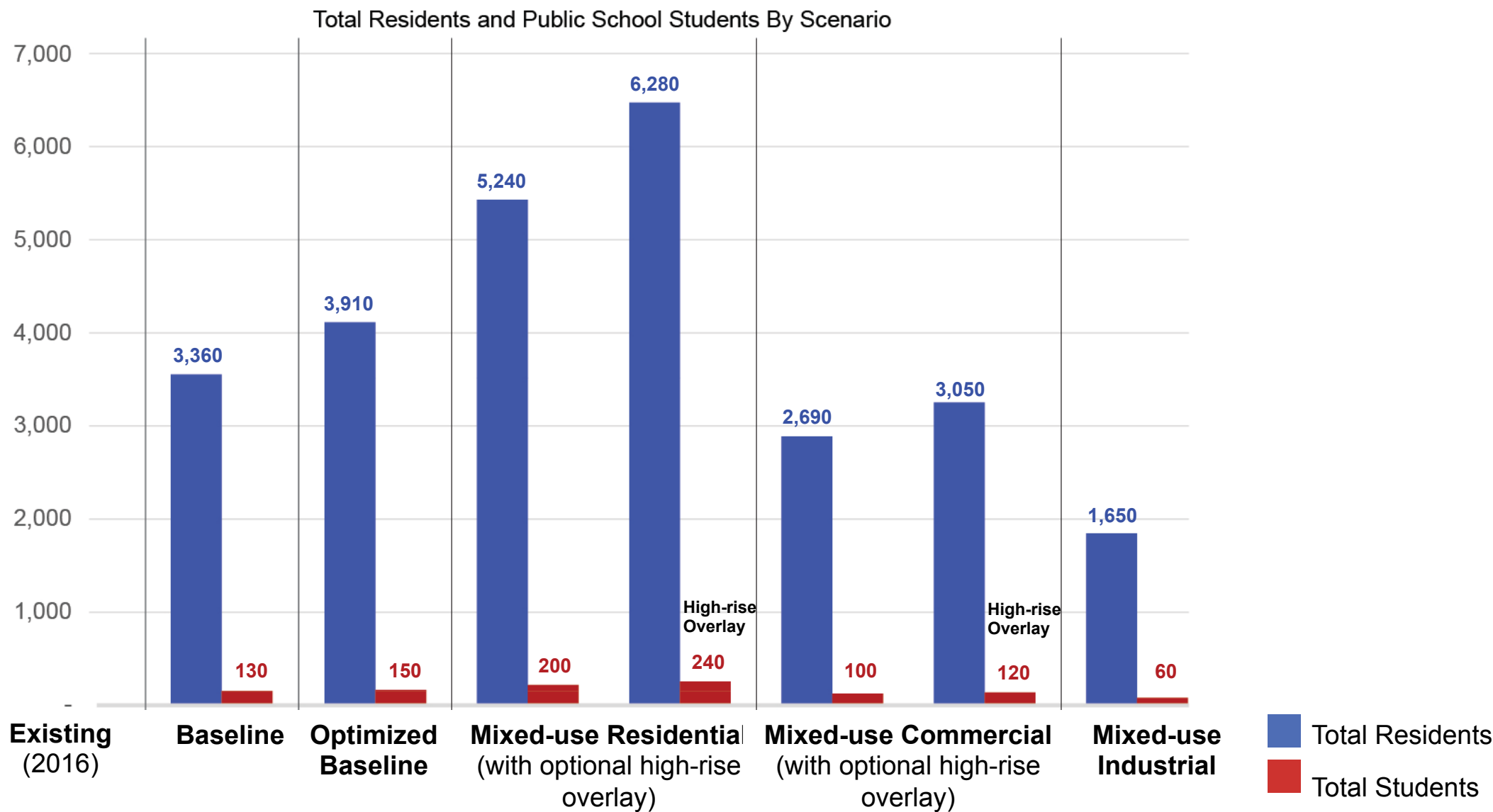
Represents a 60% Build-Out by 2030

Jobs Breakdown By Scenario

	Total	Office (A & B)	Lab (A & B)	Retail	Residential	Industrial
Baseline	6,130	3,010	3,010	-	100	-
Optimized Baseline	5,680	2,590	2,590	340	110	-
Mixed-use Residential	9,460	4,480	4,480	340	160	-
w/ High-rise Overlay	10,800	5,150	5,150	340	190	-
Mixed-use Commercial	20,670	10,130	10,130	340	80	-
w/ High-rise Overlay	23,640	11,610	11,600	340	90	-
Mixed-use Industrial	8,460	3,710	3,709	210	50	780

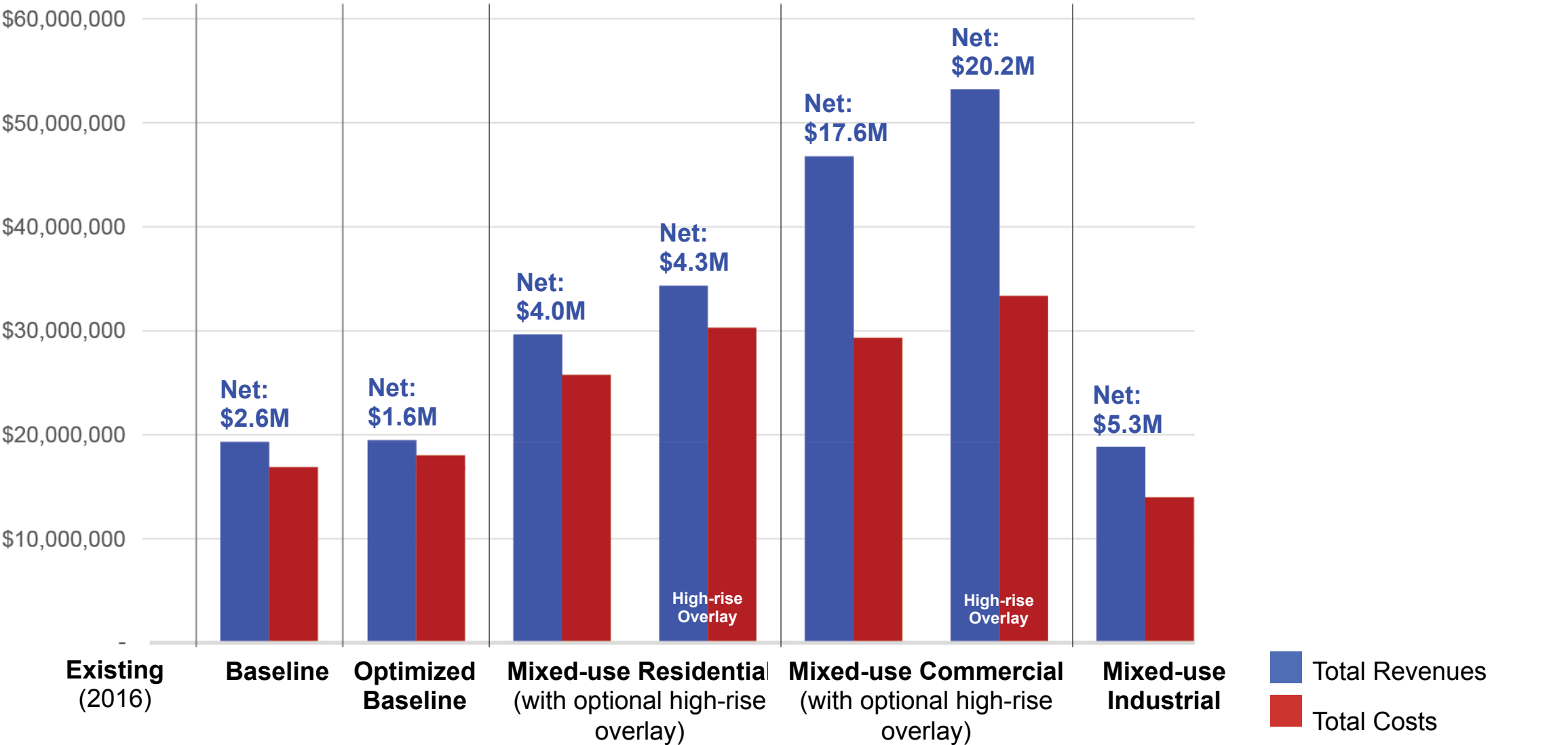
Represents a 60% Build-Out by 2030

Total Residents and Public School Students By Scenario



Represents a 60% Build-Out by 2030

Annual Fiscal Revenues and Costs By Scenario





How do we balance different priorities and concerns to achieve a desirable future for Alewife?