



*Presentation to CDLAC
Economic Development Plan
Virgin Trains USA*

About Virgin Trains USA

Southern California Expansion

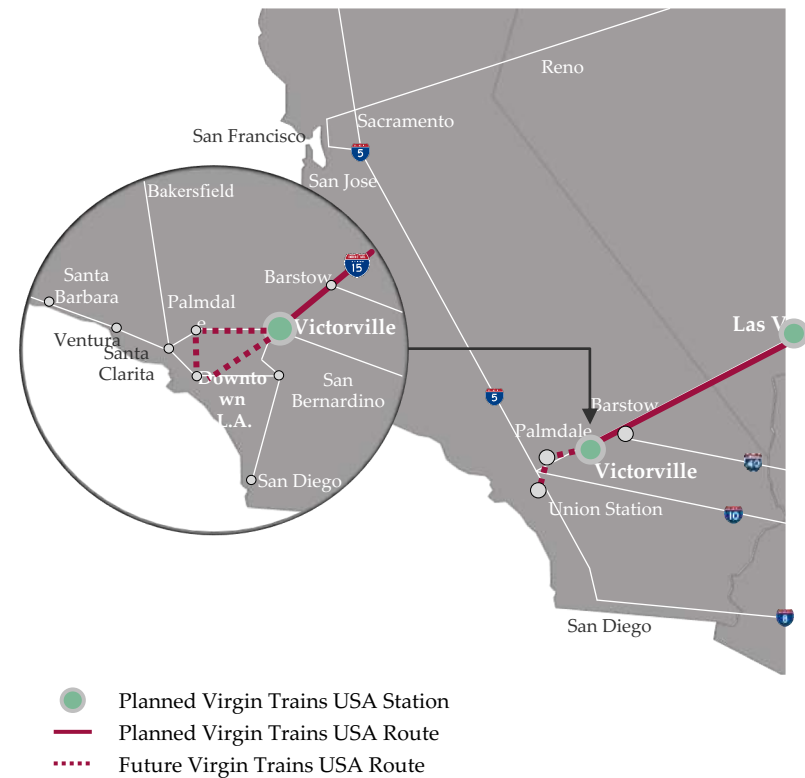
VTUSA is the first new major private passenger intercity railroad in the United States in over a century. VTUSA plans to develop a high-speed rail project within a corridor between San Bernardino County and Las Vegas.

Approximately 50 train departures per day.* 45-minute departure schedule. Trips of 90 minutes or less between San Bernardino County and Las Vegas compared to approximately 3 hours by car.

VTUSA currently controls approximately 300 acres in San Bernardino County near their proposed station site in Apple Valley.*

VTUSA is currently developing approximately 1.5 million sq. ft of mixed-use office, residential, retail and parking facilities around stations in Miami, Fort Lauderdale and West Palm Beach.*

The Virgin Train station and ancillary development will serve as a regional catalyst that will lead to thousands of jobs and new housing.



** Source: Virgin Trains USA

The Project will Transform the Victor Valley Region

The California Debt Limit Allocation Committee's allocation of \$600 million for Virgin Trains rail project will inject \$2.4 billion of investment into the Victor Valley Region. Due to the private rail company's ability to market four times as many bonds, CDLAC's return on investment for housing, jobs and regional growth will be higher than traditional housing projects. The train along with development of adjacent land will provide a boost to affordable multi-family housing and alleviate existing housing shortages. The \$600 million allocation will generate the following returns:



Housing Development Impact

- 4x multiplier which will generate **\$2.4 billion** in infrastructure investment in California.*
- **1,200** Multi-family units in Victorville.**
- **600** Multi-family units in Apple Valley.**
- **1,690** Transit Oriented Housing Units within a short distance of Virgin Trains Station.***



Environmental Impact

- Improved air quality by removing **100,000 metric tons** of carbon emissions annually.
- Reduced traffic congestion by removing **2.8 million** cars and **400 million** vehicle miles travelled (VMT) annually.
- Offer a fully electric alternative to I-15.
- Reduce number of deaths, injuries, and car damages on the road.



Additional Economic Impact

- Over **20,000** construction jobs will be created during construction and **600** permanent jobs per year.****
- **\$2.66 billion** in economic activity for California.****
- **\$360 million** in federal, state and local taxes.****
- Improved access to employment for Victor Valley residents
- Serve as a catalyst for increased housing, job creation and economic development

*75% of any high-speed intercity rail facility owned by a private entity is not subject to the bond cap (Section 142(a)(11), Internal Revenue Code)

**Projection for 10-year time period (till 2029) based on IMPLAN (November 2019 release) analysis made by Varshney & Associates

***VTUSA estimate for the construction potential on the land owned by VTUSA

****Source: IMPLAN (November 2019 release), analysis by Varshney & Associates

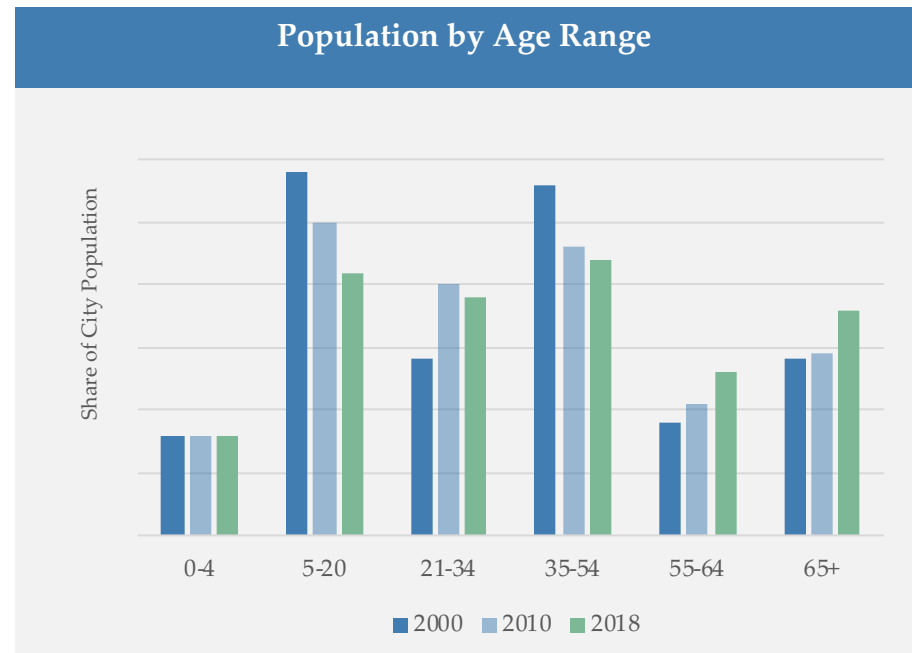
Housing Development will Lead Economic Growth

The Victor Valley Region is expected to grow tremendously by the year 2035 due to people moving inland for affordability. The housing shortage in this region requires investment. This project will support the incremental economic activity resulting from additional population moving into the Project area. It is the housing affordability that has driven past growth for Victor Valley region. Housing affordability will also drive future growth.

The Region currently has a younger population and higher poverty levels compared to rest of San Bernardino County and California. While the population continues to grow, high quality jobs are scarce, and many commute to Los Angeles for work. The Victor Valley region is currently experiencing much higher unemployment relative to San Bernardino County, California, and the nation. The Project will provide major boost to employment.

The project by create thousands of jobs that will keep the workforce in Victor Valley. The project will also indirectly create multifamily affordable housing that will support economic success.

	Victorville & Apple Valley combined area	San Bernardino County	California
Median age	32.4	33.4	36.5
Median HH income	\$49,001	\$60,420	\$71,805
Median Property Value	\$191,787	\$326,600	\$509,400
Poverty rate	21.4%	18.2%	15.10%



* Source: United States Census Bureau, 2018 estimate, www.census.org

A landscape photograph of a mountain range under a cloudy sky, with the text "Economic Impacts" overlaid in the center. The image is monochromatic, featuring shades of teal and blue. The foreground shows a rocky, sparsely vegetated plain. The middle ground is dominated by a large, dark mountain peak. The background consists of a series of smaller mountain ranges stretching across the horizon. The sky is filled with various cloud formations, some bright and some dark, adding depth to the scene.

Economic Impacts

Full Economic Impacts: Regional Scale

ECONOMIC BENEFITS OF THE PROJECT

Economic Output



Total output due to construction and operations **\$2.66 billion** through 2029.*

Housing Development



Support for additional **1,800** multi-family units on non-VTUSA land plus **1,690** units on VTUSA land until 2029.**

Job Creation: Construction



Due to construction **23,745** new jobs in Victor Valley in 2020-2023.*

Job Creation: Operations



6,600 person-years of employment within the 10 year period until 2029 due to railroad operations.*

POSITIVE IMPACTS OF THE PROJECT

Safety



The safe transit alternative will decrease the number of accidents leading to deaths, injuries, and car damages on highway. There are no signalized crossings.

Connectivity



Victor Valley population will be linked to Las Vegas employment center with **1.1 million** jobs.

Time & Distance



1.5 hours one-way represents a significant time savings for railroad passengers.

Environment



The fully electric train will remove **100,000 metric tons** of carbon emissions and 2.8 million cars off the road annually.

* Source: IMPLAN (November 2019 release), analysis by Varshney & Associates, includes direct, indirect, and induced impact both for construction and maintenance

**Projection based on IMPLAN (November 2019 release) analysis by Varshney & Associates. VTUSA estimate for the construction potential on the land owned by VTUSA

Full Economic Impacts: City Scale



The improved inter-regional mobility options will shape economic growth in Victor Valley area and High Desert region for years to come.



The disadvantaged communities will benefit from activation of economic life, improved access to job centers and educational opportunities.



Overall, the arterial connection with Las Vegas and Southern California will enhance the diversity and quality of jobs, housing stock, community amenities, and infrastructure.

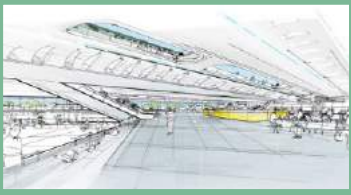


As a derivative it will have an impact on the healthcare, educational infrastructure, international tourism, and urban design excellence.



New transportation hub will encourage the momentum of market activity between the train station and other existing points of economic growth such as North Apple Valley Industrial Specific Plan District (2 miles distance) and Southern California Logistics Airport (10 miles distance).

Full Economic Impacts: Station Area Scale



The train station and surrounding 300 acres+ area will become a Victor Valley center of economic vibrancy and social activity.



Multi modal transportation network will create local opportunities for employment, entrepreneurship, and entertainment.



The newly developed neighborhoods will become a place with broad range of housing opportunities for various household types, ages, and incomes.



The need for locally based workforce will lead the advocacy for affordable housing and equitable development along the area, focusing on both housing and employment solutions, as well as local transportation improvements beyond the railroad.



The development of pedestrian and bikeable zones, recreational and community gatherings areas will contribute to public health, air quality, and environmental protection.



Impact on Housing

Potential Impact on Housing in Victorville (2020-2029)



For the eight year period of 2021 - 2029 the demand estimated by RHNA in Victorville is 8,134 housing units.*



The average number of units built per year is 320, thus the total number of units built till 2029 without VTUSA project can be projected as 2,880.**



Currently there are 2,077 lots in Victorville that are available and shovel ready.**



The VTUSA project can support 1,200 multifamily housing units in addition to what would be built in Victorville without the project. ***

- Projected for 6th Regional Housing Needs Assessment (RHNA) 8-year cycle (Oct.2021-Oct.2029):
- ** Source: data provided by City of Victorville
- *** Projection based on IMPLAN (November 2019 release) analysis by Varshney & Associates

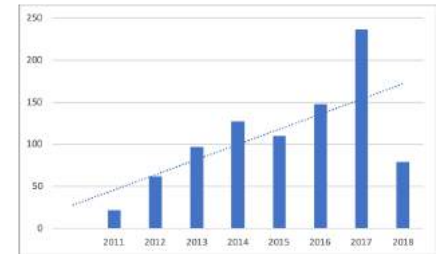
Potential Impact on Housing in Apple Valley (2020-2029)



For the eight year period 2021 - 2029 the demand estimated by RHNA in Apple Valley is 4,274 housing units.*



In Apple Valley number of units built per year follows the graphed trendline**, thus the total number of units built till 2029 without VTUSA project can be projected as 2,780. **



Currently there are 2,777 lots in Apple Valley that are available and shovel ready.***



VTUSA project can support 600 housing units in addition to what would be built in Apple Valley without the project. ****

*Projected for 6th Regional Housing Needs Assessment (RHNA) 8-year cycle (Oct.2021-Oct.2029)

** Southern California Association of Governments (SCAG) Regional Council <https://www.scag.ca.gov/Documents/AppleValley.pdf>

***Source: data provided by Town of Apple Valley

**** Projection based on IMPLAN (November 2019 release) analysis by Varshney & Associates

Los Angeles County Extension: Potential Impact on Housing in Victorville and Apple Valley

The allocation of \$600 million will ensure the development of high-speed rail between Las Vegas and San Bernardino County. High Speed rail and ancillary development will pave the way for a future connection to Palmdale and eventually a Los Angeles connection. This will establish a new and vital transportation hub between Los Angeles and San Bernardino Counties that will serve the 20 million people in the Los Angeles basin. The Palmdale extension will further establish housing and real-estate development with the Victorville Desert Gateway project.



Period after 2029 will be the second phase of the project and would likely include an extension to Palmdale, CA.



With the conservative estimate due to becoming a nationwide transportation hub the incremental growth of Victor Valley population will be at least 10%.



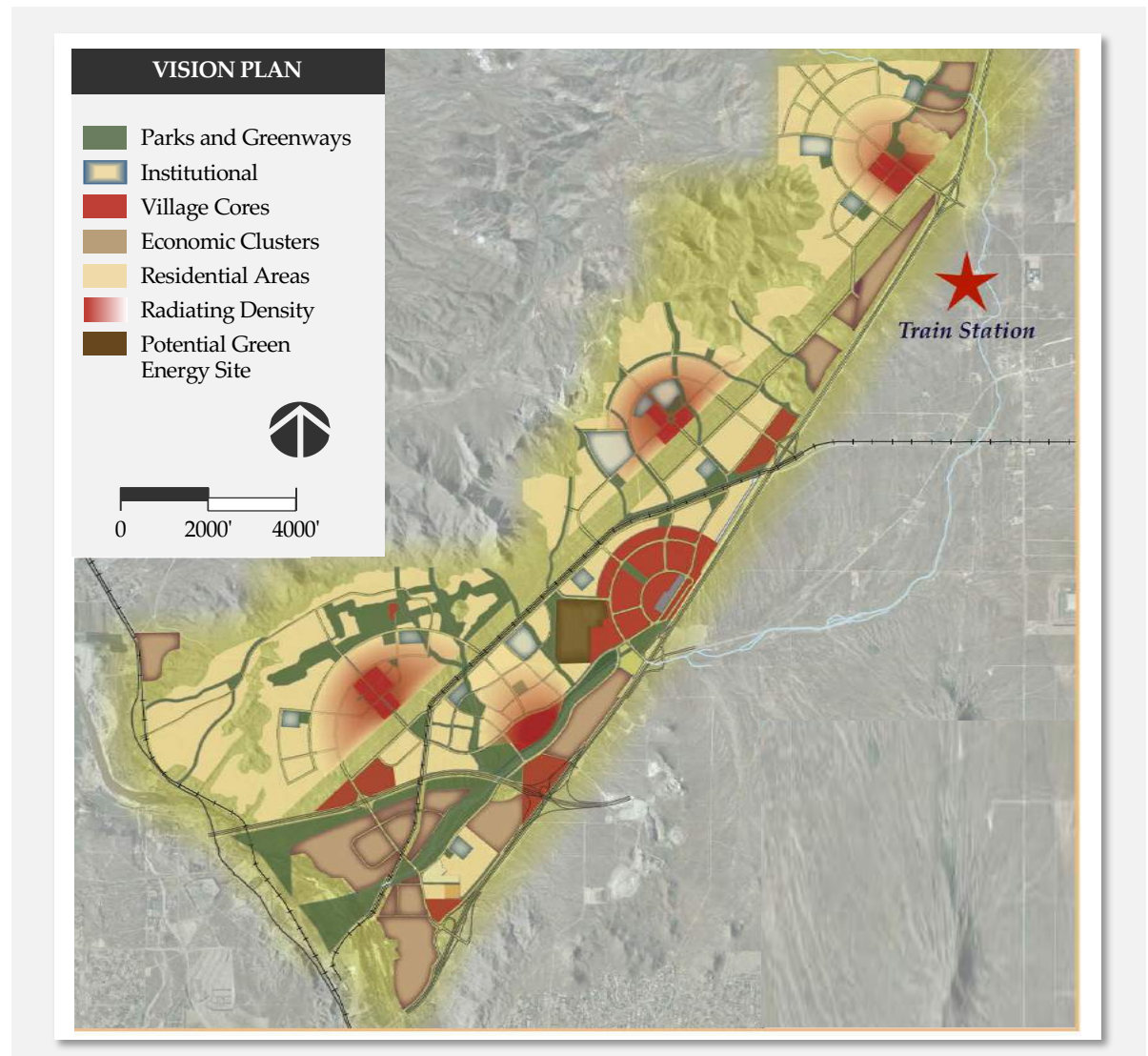
This 10% growth and respective demand will support the construction of additional 5,000 units of affordable housing within the next 10 years.*

* Projection based on IMPLAN (November 2019 release) analysis made by Varshney & Associates

Feature Project: Desert Gateway

Victorville's Desert Gateway is ready for development but requires the catalyst of Virgin Trains. This project would result in thousands of new housing units including multi-family homes.

- Desert Gateway is a 10,203-acre area at the northern edge of the City of Victorville
- Plan includes:
 - Mixed use centers to anchor each village and district
 - A transit system linking mixed use centers together
 - The multi-modal transportation network with interconnected roadways, bikeways, and trails
 - Abundant parks, arroyos, and open space
 - Sustainable, green practices underlying all development



Feature Project: North Apple Valley Industrial Center

North Apple Valley Industrial Specific Plan is underway but further development awaits the catalyst of Virgin Trains.



In Apple Valley the major economic impact from the railroad and train station is expected in the northwestern part of the Town



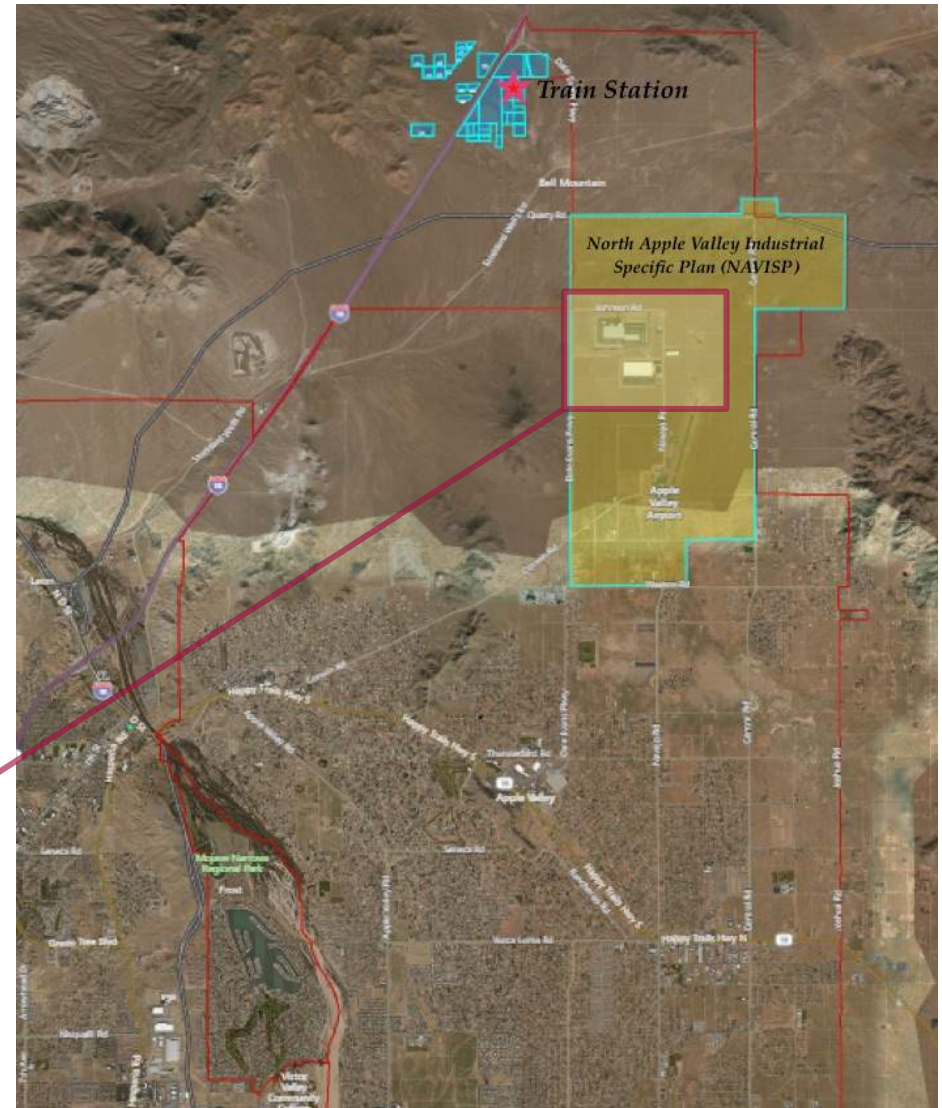
This part of the Town is the location of the North Apple Valley Industrial Specific Plan (NAVISP) district



Northwest entrance of NAVISP (Dale Evans Pkwy & Quarry Rd.) is 2 miles distance from the train station site



NAVISP consists of 6,600* acres. Current tenants include Walmart Distribution Center, Big Lots Distribution Center, Victor Valley Regional Public Safety Training Center, and Fresenius Medical Care's Tru Blu Logistics Center.



* Source: Apple Valley Town Council <https://www.applevalley.org/services/economic-development/industry-overview>

A teal-tinted landscape photograph of a mountain range. The foreground is a flat, rocky plain with sparse, low-lying vegetation. In the middle ground, a large, dark, rocky mountain peak rises. The background shows a series of rolling mountain ranges under a sky filled with scattered, white clouds. The word "Employment" is overlaid in the center in a white, serif font.

Employment

Future Connectivity to Employment Centers

- Access to employment essential to housing affordability.
- The increased **connectivity to employment centers** and international tourism will additionally impact the economy of Victor Valley by creating jobs and conditions for equitable transit-oriented development.
- Further extension to Palmdale and Los Angeles will convert Victor Valley from a state-level to a nationwide transportation hub.
- Once the ramp-up of demand is complete high-speed rail is expected to capture 11.3 million round trips per year.*
- Clustering of housing development around rail stations will contribute to the vitality of the communities and yield important environmental and social benefits.

- Housing near transit can create more affordable places for people to live in, especially due to the option of not having to own a car.
- The new level of connectivity and mobility provided by Palmdale extension will encourage housing affordability, a greater diversity of housing types, construction of facilities and services within easy walking distance.

Possible Connection with California HSR*



* Source: Steer Davies Gleave Ridership & Revenue Report

Project will Create Railroad Construction Jobs



The Victor Valley region will get a boost of employment due to construction work within the period between 2020 and 2023. These jobs would create a multiplier effect, generating additional economic activity beyond those directly supported by the project.



In Victorville and Apple Valley , the incremental employment growth due to railroad construction is expected to be 14,785 and 8,960 jobs respectively* within the construction period (2020-2023).



Total the railroad construction will support additional 23,745 jobs* in Victor Valley region as the result of the railroad construction between 2020 and 2023.



EMPLOYMENT DUE TO RAILROAD
CONSTRUCTION (UNTIL 2023)*

DIRECT	18,095
INDIRECT	1,361
INDUCED	4,289
TOTAL	23,745

* Source: IMPLAN (November 2019 release), analysis by Varshney & Associates

Project will Create Railroad Operations Jobs



The Victor Valley region will benefit not only from construction, but also railroad operations and maintenance jobs.



These jobs include railroad engineers, mechanics, station staff, and other railroad related positions. As with the construction jobs, there will be a multiplier effect as well: these jobs will generate activity far beyond the scale of the project.



In Victor Valley, operations during this ten-year period will result in supporting 6,600 person-years of employment.



EMPLOYMENT DUE TO RAILROAD
OPERATIONS (UNTIL 2029)*

DIRECT	5,754
INDIRECT	281
INDUCED	580
TOTAL	6,616

* Source: IMPLAN (November 2019 release), analysis by Varshney & Associates



Economic Output, Labor Income, and Taxes

Project will Boost the Economy



The Victor Valley region may currently best be described as economically depressed since the major population residing there are mostly out migrants from Los Angeles region in search of better affordability. The Train Project promises to provide major boost to the local economy.



The railroad construction will result in \$2.3 billion* of total economic output in Victor Valley in 2020-2023. The total economic output brought by railroad operations during the 10 –year period till 2029 will be \$377.4 million*.



This economic benefit goes together with reducing energy consumption and pollution, lowering greenhouse gas emissions, cutting highway gridlock, saving lives, health and property damage in road accidents, reducing the costs of vehicles operation and maintenance.



ECONOMIC OUTPUT*		
	CONSTRUCTION (UNTIL 2023, MILLIONS)	OPERATIONS (UNTIL) 2029, MILLIONS)
DIRECT	1,442.9	249.6
INDIRECT	211.4	42.9
INDUCED	627.2	84.8
TOTAL	2,281.6	377.4

* Source: IMPLAN (November 2019 release), analysis by Varshney & Associates

Project will Create New Labor Income to Reduce Poverty



The Victor Valley Region currently has higher poverty levels and lower household incomes relative to San Bernardino County and State of California. The Train Project will significantly boost household incomes from more and in many cases better paying jobs.



In Victor Valley Region, railroad construction within the period till 2023 (start of operations) will bring \$1.3 billion in labor income.



In Victor Valley Region, railroad operations over the ten-year period will result in \$170 million in labor income.



	LABOR INCOME*	
	CONSTRUCTION (UNTIL 2023, MILLIONS)	OPERATIONS (UNTIL) 2029, MILLIONS)
DIRECT	1,012	131
INDIRECT	71	13
INDUCED	193	26
TOTAL	1,276	170

* Source: IMPLAN (November 2019 release), analysis by Varshney & Associates

Project Indirect tax Revenues will Fund Public Services



The increased tax revenue from the Train Project promises to fund local schools, fire departments, police, and all other services needed for a growing population that is not economically as well off



The railroad construction will bring \$317.6 million in federal, state, and local tax revenue.



In Victor Valley, operations during the ten-year period will result in \$43.0 million in tax revenue across federal, state, and local jurisdictions.



	TAX REVENUES *	
	CONSTRUCTION (UNTIL 2023, MILLIONS)	OPERATIONS (UNTIL 2029, MILLIONS)
FEDERAL	108.4	17.8
STATE AND LOCAL	209.2	25.3
TOTAL	317.6	43.1

* Source: IMPLAN (November 2019 release), analysis by Varshney & Associates

A landscape photograph of a mountain range under a cloudy sky, with the text "Our Vision" overlaid in the center. The image is monochromatic, featuring shades of teal and blue. The foreground shows a rocky, sparsely vegetated plain. The middle ground is dominated by a large, dark mountain peak. The background consists of a range of mountains under a sky filled with scattered clouds.

Our Vision

Overall Vision: Transit Oriented Development (TOD) in Victor Valley

The second facet of Virgin Trains' business is the development of transit-oriented development.

Because of the high number of passengers expected to pass through Virgin Train stations, there are several attractive retail, residential and commercial transit-oriented real estate development opportunities at or near station sites.

Virgin Trains and its subsidiaries are currently developing approximately 1.5 million square feet of mixed-use office, residential, retail and parking facilities at and around our stations in Miami, Fort Lauderdale and West Palm Beach.

Virgin Trains USA currently controls approximately 300 acres in San Bernardino County near their proposed station site in Apple Valley.

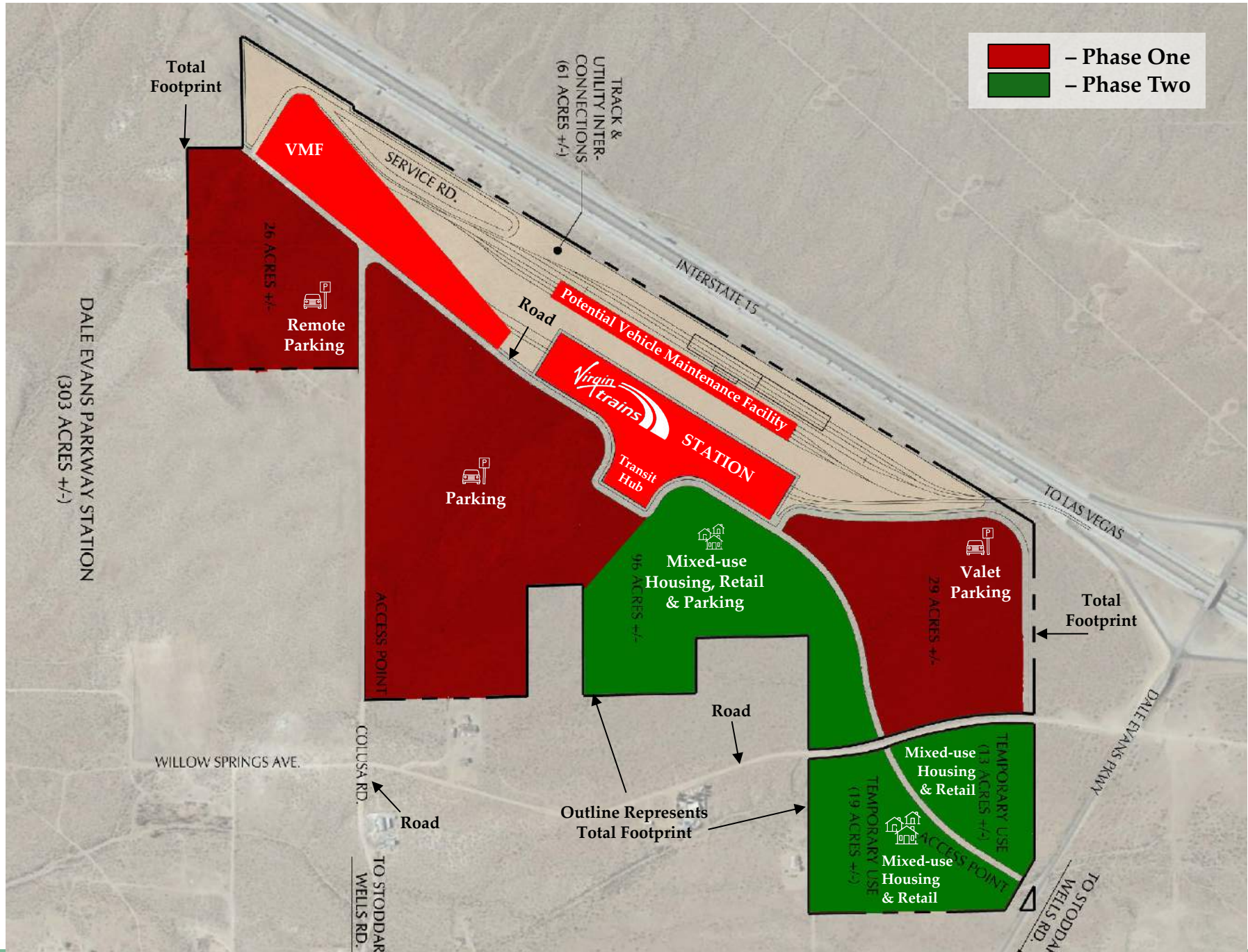
Miami, FL



West Palm Beach, FL



High-Level Master Plan Outline



Adjacent Land Development

Victorville

- Parcel 192 is 25 Acres = 625 units of workforce housing
- Parcel 203 is 5 Acres = 125 units of workforce housing
- Parcel 239 is 20 Acres = 500 units of workforce housing*

Apple Valley

- Parcel 225 is 22 of 32 Acres = 440 units of workforce housing*
- **1,690 potential workforce housing units**



* Potential plans would require zoning changes. Studies for Phase Two would begin as soon as VTUSA gets project financing in place. Master planning and absorption studies will determine the exact mix and timeline for our development. Various transportation agencies will influence timing of additional connectivity.

Artist Rendering

The artist rendering depicts the Virgin Trains station adjacent to high density housing units. The units are within a short walk to the station. Additional Virgin Trains property would allow for further development.



Project Timeline

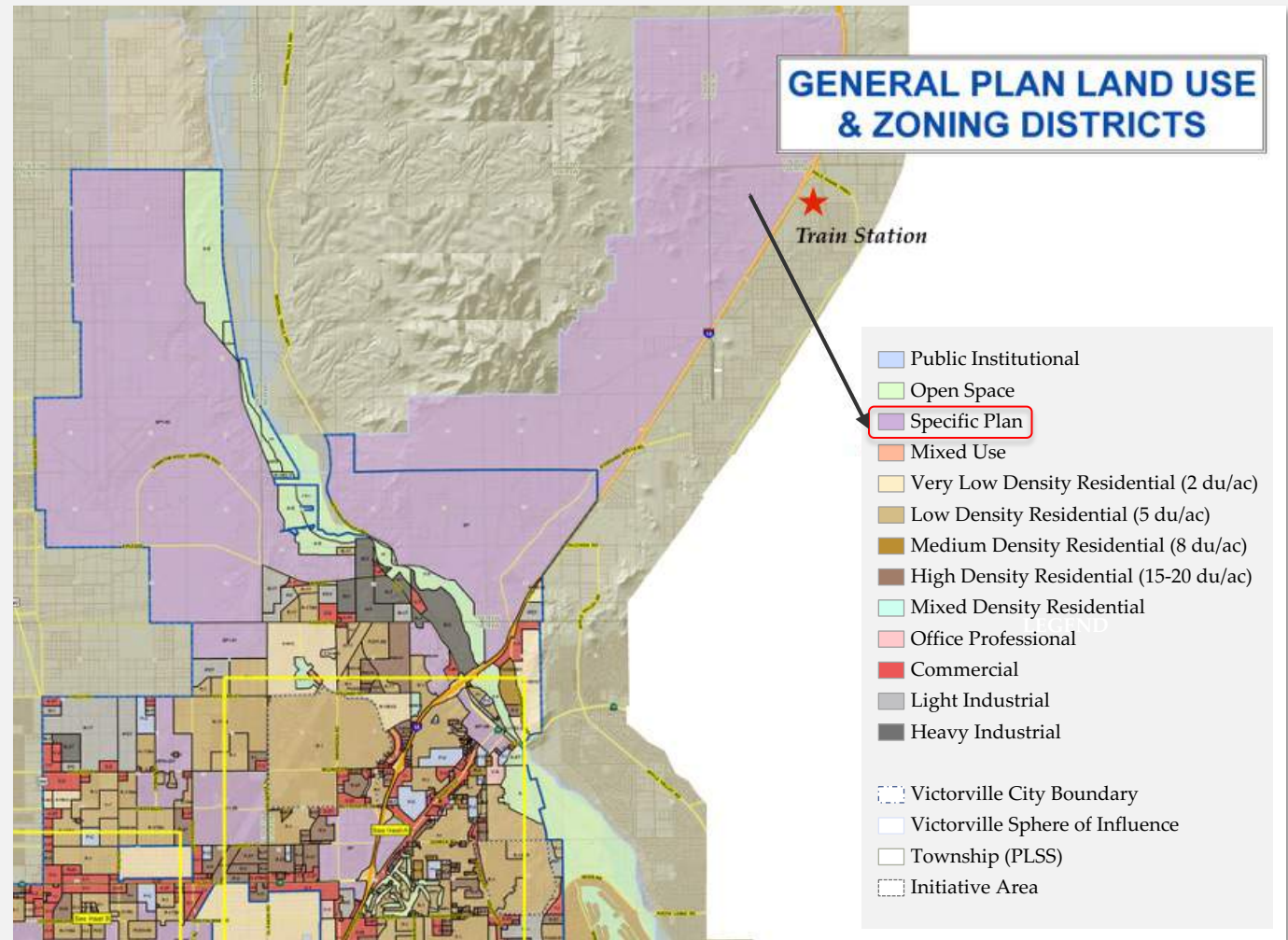
Adjacent development to kick-off at completion of the station in 2023

	1H 2020	2H 2020	2021	2022	2023	2025	2027
Station	<ul style="list-style-type: none"> • Concept design • Schematic design 	<ul style="list-style-type: none"> • 50% design documents • Construction documents 	<ul style="list-style-type: none"> • Begin construction 		<ul style="list-style-type: none"> • Complete construction 		
Adjacent Development¹⁾		<ul style="list-style-type: none"> • Create initial high-level master plan 	<ul style="list-style-type: none"> • Feasibility discussions internally & with developers, cities for overall rest of site • Develop concept plan and cost estimate 	<ul style="list-style-type: none"> • Decide whether to self-develop, co-develop or sell land • Kick-off re-zone process 	<ul style="list-style-type: none"> • Begin construction 	<ul style="list-style-type: none"> • Development complete 	
Train Operations					<ul style="list-style-type: none"> • Begin revenue service (Q4) 		<ul style="list-style-type: none"> • Train operation fully ramped sparking ancillary Victor Valley development

1) For ~30 acres of station adjacent land based on market conditions and available financing.

Annexation and Re-Zoning in Victorville

- The territory of parcels is outside the City border and within the City sphere of influence
- LAFCO annexation process is required
- After annexation is complete the CEQA/re-zoning process will include:
 - Traffic/air quality studies
 - Hydrology/WQMP studies
 - Biological/cultural reports
 - Tribal consultation
 - Environmental review
 - Public hearings (Planning Commission, City Council)



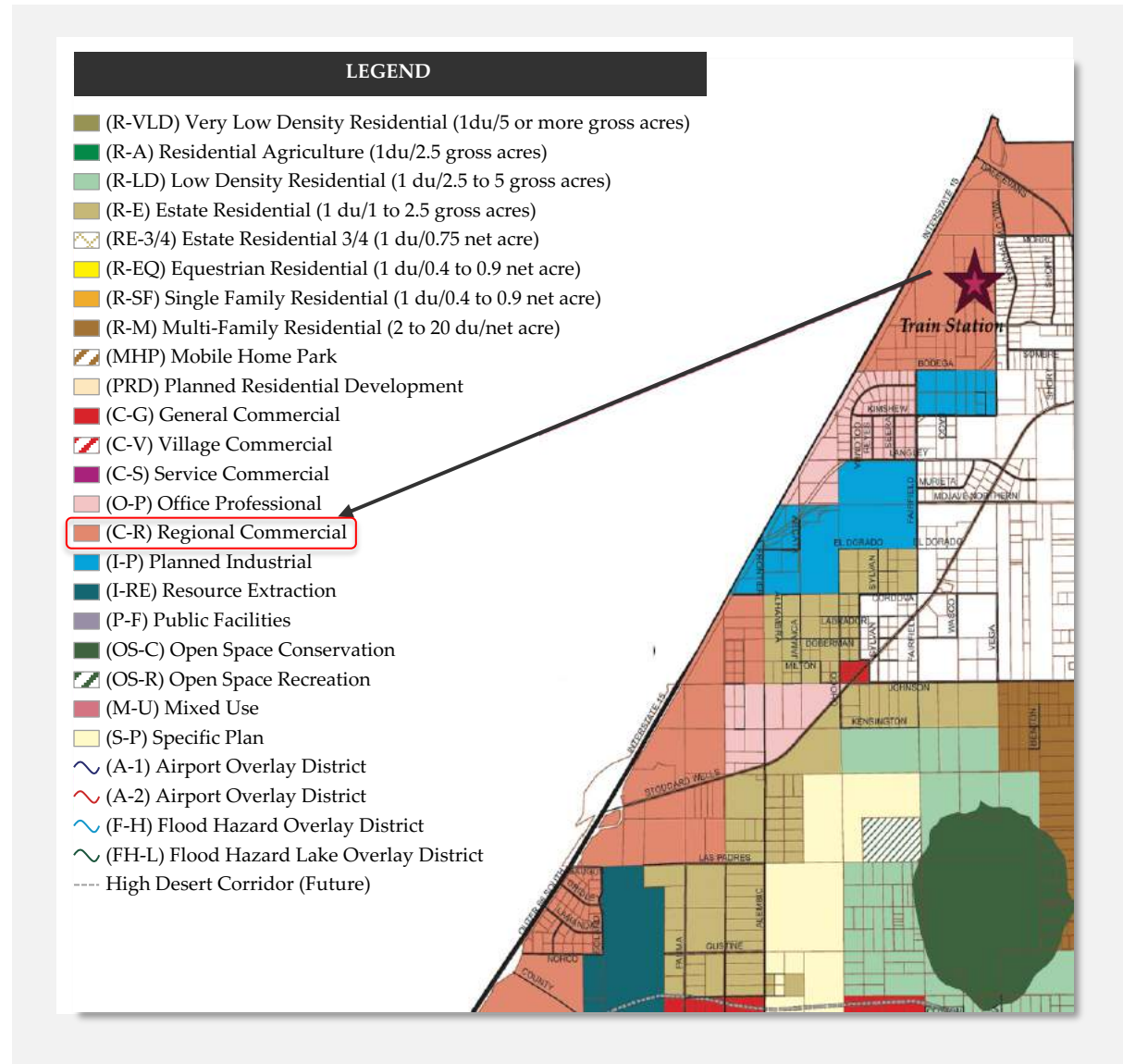
Victorville Annexation and Re-Zoning Time Schedule



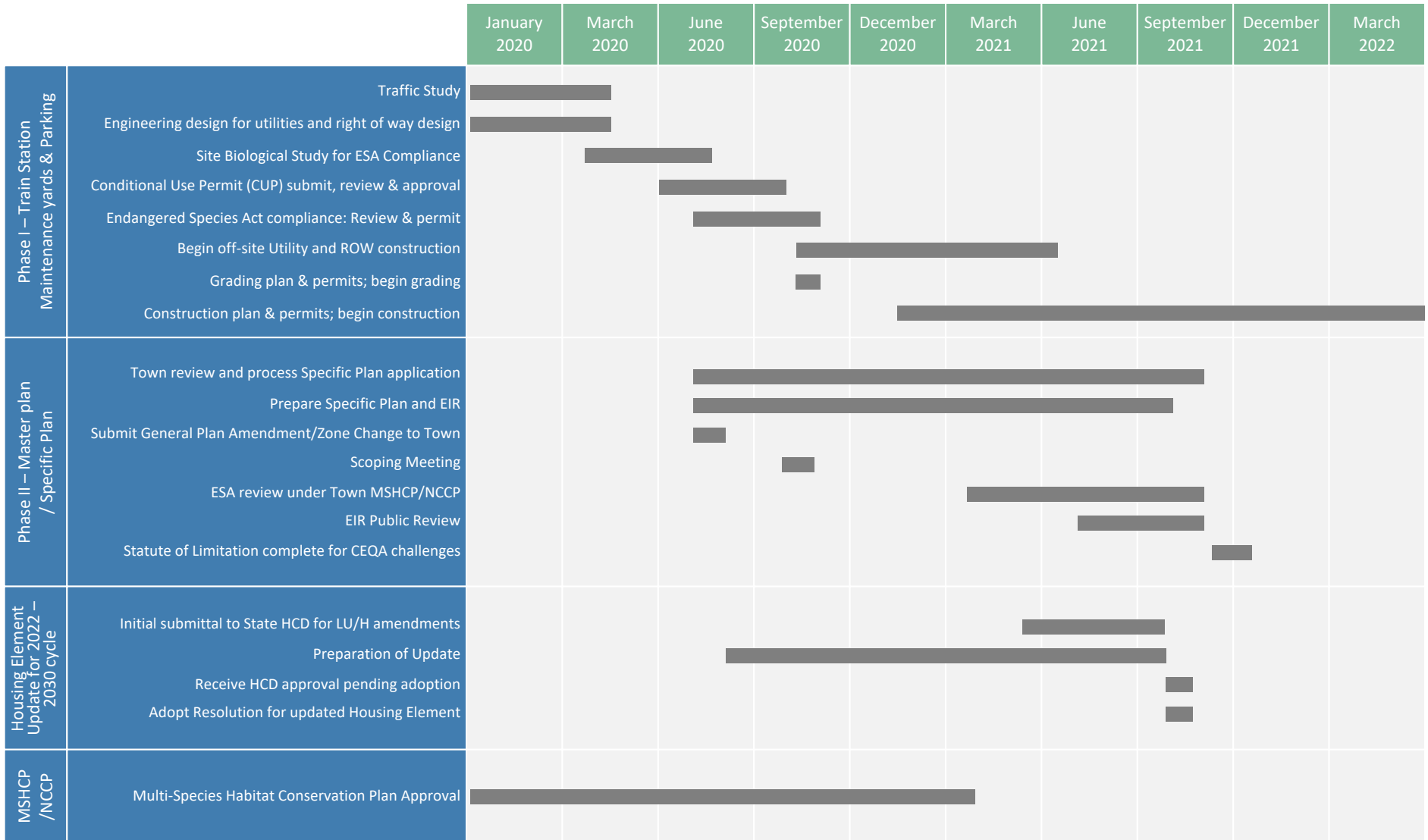
* Estimate provided by the Government of City of Victorville

Re-Zoning in Apple Valley

- In Apple Valley the potential development area is zoned as Regional Commercial
- Re-zoning to Multi-Family Residential (up to 20 dwelling units/ acre) is required
- The major milestones of CEQA process will include:
 - Traffic study
 - Engineering Design for Utility Infrastructure and Right of Way Design
 - Site Biological Study for ESA compliance
 - Preparation of the Specific Plan and Environmental Impact Report
 - Public hearings and reviews (Planning Commission, Town Council)
 - Housing Element of the General Plan update
 - Multi-Species Habitat Conservation Plan Approval



Apple Valley Re-Zoning Time Schedule



* Estimate provided by the Government of Town of Apple Valley

Possible Partners for Affordable Housing Development in Victorville

Virgin Trains would partner with local developers who are experts in the development of affordable housing projects. An RFP process would be conducted locally and may include many of the following developers. The following list has been provided by the City of Victorville.

The list of currently active developers – potential partners includes:

1	KB Home	7	Howard Roberts Development
2	K. Hovnanian® Homes	8	Evergreen Homes LLC
3	Legacy Homes	9	American Heritage Communities
4	D.R. Horton	10	Hai Land
5	Frontier Communities	11	Marina View Townhomes LLC
6	LGI Homes		

Possible Partners for Affordable Housing Development in Apple Valley

Virgin Trains would partner with local developers who are experts in the development of affordable housing projects. An RFP process would be conducted locally and would include many of the following developers. The following list of developers has been provided by the City of Apple Valley.

The list of currently active developers – potential partners includes:

1	Lewis Group of Companies	5	Majestic Realty Co
2	JH Real Estate Partners	6	Simon Properties
3	Evergreen Development	7	Brixton Capital
4	Brookfield Properties, formerly Forest City Development/	8	Pacific Development Group



Varshney and Associates

Sanjay Varshney Bio

Sanjay Varshney is the owner and principal of Varshney and Associates - a Sacramento based small business firm that provides in depth business and economic consulting services.

The team comprises academic and practitioner leaders in their industries who are subject matter experts.

Dr. Sanjay Varshney currently serves as Professor of Finance at Sacramento State.

Most recently he served there as Dean of the College of Business for 10 years.

Dr. Varshney has also served as a financial consultant for leading Wall Street firms such as UBS Financial Services, Salomon Smith Barney, Fleet Boston, Montgomery Securities, Goldman Sachs, J.B. Oxford, Charles Schwab, and Barclays among others.

Varshney & Associates has conducted numerous research studies for both private sector and public sector entities such as JPA SouthEast Connector, US Olympic Committee for the 2016 Summer Olympic Games bid by Chicago, the California Winter Games Committee for the 2022 Winter Olympic Games bid by Tahoe/Reno, water rates charged and capital improvements conducted by the City of Sacramento, SMUD analysis of economic impact of Yolo annexation, and others.

In addition Varshney & Associates has a track record of successful projects completed for Department of General Services, Department of State Architect, California Department of Boating and Waterways, Department of Conservation, Board of Equalization, FI\$CAL Project, Department of Parks and Recreation, and others.

Dr. Sanjay Varshney has been featured widely in the media and on television including the Sacramento Bee, Prosper Magazine, Comstock Magazine, the Business Journal, Sacramento Magazine, ABC, NBC, CBS, and Fox News.



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