



Board Report

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Agenda Number:

**OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE
APRIL 20, 2023**

SUBJECT: CENTER FOR TRANSPORTATION EXCELLENCE

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE status report on the Center for Transportation Excellence.

ISSUE

Since 2018, Metro has sought to identify a suitable location within Los Angeles County for a vehicle testing and manufacturing facility, referred to as the Center for Transportation Excellence (Center). Following extensive stakeholder input regarding the priority components of such a facility, a review of best practices, and a vetting of potential sites, Metro has identified property owned by the Los Angeles World Airports (LAWA) in Palmdale, as a viable site for the proposed center. This Report provides a status on the work that has been conducted and the next steps in developing the Center.

BACKGROUND

Following the passage of Measures R and M, Metro's capital and fleet program has expanded extensively. Despite efforts to double the mileage of rail infrastructure and significantly reformulate buses to support the agency's zero emission goals, Metro's delivery of rail transit vehicles and corresponding infrastructure expansion are impacted by limitations. The negative impacts include limited access to vehicle and system level testing opportunities, a skilled and trained workforce, qualified vendors, and suitable research and development facilities. This has impacted schedules for Metro's projects and put future projects and new vehicle deployments at risk for delays. As Metro incorporates new technologies such as zero emission busses and new rail vehicles, a local off-site location for testing would facilitate efficiencies and reduce risk in program delivery.

While this type of Center is of specific interest to Metro, there is also a broader demand from other transit agencies, particularly in the Western United States, where nearly 13,000 rail cars and 16,000 buses are expected to be procured over the next 20 years.

Metro anticipates that vehicle manufacturers would be motivated to co-locate manufacturing facilities in close proximity to the Center. This would support both Metro and the federal government's goal to reestablish domestic transportation vehicle manufacturing, in alignment with the Buy America Policy.

DISCUSSION

Facility Components

Consistent with the objectives identified above, the highest priority components for the Center include a test track (which could sustain speeds of 85 mph) and vehicle commissioning facilities, including an advanced dynamometer for electric vehicles, testing for microgrids and vehicle-grid integration, climate rooms for rail and bus HVAC testing, and space for vehicle manufacturers to make refinements to the fleet based on the testing that was conducted. In addition, the Center would include space for research, development, and training.

In order to site all of the above requirements, Metro has sought to identify a property that could be developed in two phases. Phase 1 would include an approximately 7-mile rail loop and approximately 500,000 square feet of testing facilities (comprised of separate facilities for light rail, heavy rail, and bus testing, the commissioning facilities identified above, warehouse space, and office space). Phase 2 would accommodate approximately 1,500,000 square feet of manufacturing facilities (comprised of separate facilities for light rail, heavy rail and buses inclusive of assembly bays, warehouse space, office space, and assembly tracks).

Project Benefits

Initial estimates suggest that the completion of both phases of development could generate an estimated \$11.5 billion in economic return/impact, including \$6.67 billion in retail and wholesale sales over the first ten years, and create 114,310 direct and indirectly-generated jobs.

By incubating the industry and developing a workforce trained to build, maintain, and operate the advanced transportation equipment of the future, the Center will also contribute to advancements in the areas of interest in the energy and infrastructure sectors. Anticipated improvements include energy management, energy storage, and grid technology. It also could promote the growth of industries in areas such as battery technology, data communications, and automation.

Site Identification Process

Based on the above-mentioned criteria, Metro did a countywide search of available property. In partnership with the County of Los Angeles and the Cities of Palmdale and Lancaster, numerous properties were identified in the northern portion of the County. Parcels were evaluated based on size, access to rail corridors, zoning, existing infrastructure, proximity to vocational institutions/labor supply, proximity to public transportation, and whether it was located in a Metro Equity Focus Community (EFC).

Of eight sites evaluated, only two met the criteria for being large enough to accommodate light, and heavy rail vehicle testing, which requires an approximately 7-mile track to sustain speeds of at least 85 miles per hour. Both of those sites were owned by LAWA, as part of their Palmdale Airport land holdings.

During further discussions, LAWA personnel clarified that only one site, located in the eastern section of their property (LAWA3E), was available (see Attachment A). The site is approximately 8.6 square

miles and spans both the City of Palmdale and unincorporated County of Los Angeles. The fact that there are no built improvements on the site, it is owned by one public property owner, it is located in close proximity to the proposed High Desert Corridor and the Palmdale Metrolink station, and within an EFC, all contribute to its potential suitability. Additionally, Los Angeles County is home to one of the largest relevantly skilled labor forces in the nation. The Antelope Valley specifically has a high concentration of skilled labor for manufacturing, with its concentration of several aerospace and other high-technology manufacturing and logistics operations.

Due Diligence on LAWA 3E Site

Staff completed further due diligence on the LAWA3E site. This included a preliminary land use analysis, environmental assessment, and the feasibility of providing utility services to the site. Additionally,, staff created a preliminary layout for the Center that would include improvements required for the envisioned two-phase development, as described above.

Given that the site is located between two Sensitive Ecological Areas, it is anticipated that a comprehensive biological review would be required to further assess any mitigations or requirements that could impact the feasibility of development.

In early March 2023, Metro engaged a biologist to conduct a preliminary survey of the site and confirm that the entire project site is undeveloped with varying degrees of disturbance. The site contains areas of saltbush scrub with some salt cedar shrubs, areas of Mohave creosote bush scrub, and some areas that have been cleared or are otherwise disturbed/impacted. While Joshua trees are present on this site, they were not identified at a proliferation that would make development infeasible. The biologist's due-diligence assessment also identified low to moderate-quality suitable habitat for special-status plant and wildlife species, including desert tortoise, Mohave ground squirrel, Swainson's hawk, Crotch's bumblebee, burrowing owl, sensitive plants, and nesting native birds. Given these initial findings, additional surveys are required, and if any sensitive plant or wildlife species are observed during these surveys, additional consultation with regulatory agencies will likely be required. As many of these surveys must be done during the Spring season, Metro is investigating the feasibility of completing these surveys over the next few months.

In addition to the land use considerations, it should be noted that the City of Los Angeles' Charter only authorizes LAWA to enter into leases that will not exceed a 50-year term. LAWA would also need to confirm the process for leasing the site, and if Federal Aviation Administration (FAA) approval will be needed to lease the site for this purpose. Staff is still evaluating whether the 50-year lease limitation will significantly impact Metro's ability to secure funding to construct and operate the Project.

FUNDING

An initial rough order of magnitude cost to construct Phase 1 is estimated at \$1.4-1.65 billion (FY23 dollars).

Staff has initiated advocacy strategies to engage state and federal officials and agencies regarding funding opportunities to support the construction of the Center, including potential appropriations for planning purposes.

On August 9, 2022, President Biden signed into law the CHIPS and Science Act (P.L. 117-167). Consistent with Metro's Board-approved Federal Legislative - Metro's Government Relations Department worked with the Los Angeles County Congressional Delegation to ensure that provisions of this bill could potentially benefit the Center. Specifically, the CHIPS and Science Act authorizes the United States Department of Commerce to designate geographically distributed regional technology and innovation hubs and award strategy development and implementation grants to eligible consortia. Tech Hubs will focus on technology development, job creation, entrepreneurial development, and expanding U.S. innovation capacity. Of the \$10 billion authorized for the Tech Hubs program from the Federal fiscal year 2023 through the Federal fiscal year 2027, \$500 million has been encumbered by the Economic Development Administration (EDA) for this purpose. On March 16, 2023, the CEO submitted a response to the EDA's Request for Information to advocate for alignment of future funding solicitations with the Center's goals, objectives, and scope. Metro has also raised our interest in establishing this Center with key federal stakeholders on Capitol Hill and within the Executive Branch - including but not limited to - senior officials at the U.S. Department of Commerce.

EQUITY PLATFORM

The proposed Center's development and operation would not only further efforts to expedite the delivery of transit technology and solutions that would benefit low-income and disadvantaged riders but, specifically, create workforce and economic opportunities in an area of the County that could benefit from additional investment. This is relevant given that as of February 2023, Palmdale and Lancaster have unemployment rates of 7.3%, respectively, compared to Los Angeles County's rate of 5.3%, reflecting the need for additional workforce development and job opportunities. The site is currently undeveloped, and therefore no residences or businesses would be displaced from this development. Any potential impacts on the surrounding community from construction are anticipated to be investigated during the environmental review process.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This recommendation supports Strategic Plan Goal #4: Transform LA County through regional collaboration and national leadership.

NEXT STEPS

Staff will engage the County of Los Angeles and LAWA and the surrounding local jurisdictions to discuss necessary partnerships, site control strategies, and governing models to advance the project. In coordination with these partners, staff will utilize the services of an economic advisor to develop a financial feasibility analysis and a subsequent financing plan that layers multiple public and private sources.

Based on the due diligence completed to date, staff believes it is appropriate to continue planning activities associated with siting the Center at LAWA3E, including further developing a conceptual budget, entitlement, and environmental clearance strategy. Specifically, staff plans to continue vetting the site from an environmental perspective by conducting various surveys of sensitive biological species, which must be conducted during the spring season. Staff will also continue to engage

industry stakeholders to build support for the project, including consulting with Los Angeles Economic Development Corporation (LAEDC) to prepare an economic impact study for the Center.

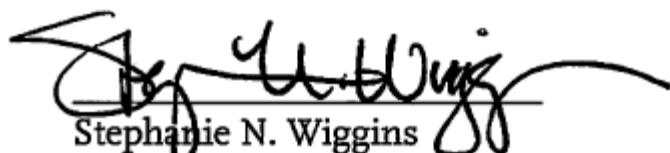
Lastly, staff will pursue funding opportunities, including appropriations as part of the State and Federal FY 23 budgets to support planning activities.

ATTACHMENTS

Attachment A - Center for Transportation Excellence Preliminary Site Plan

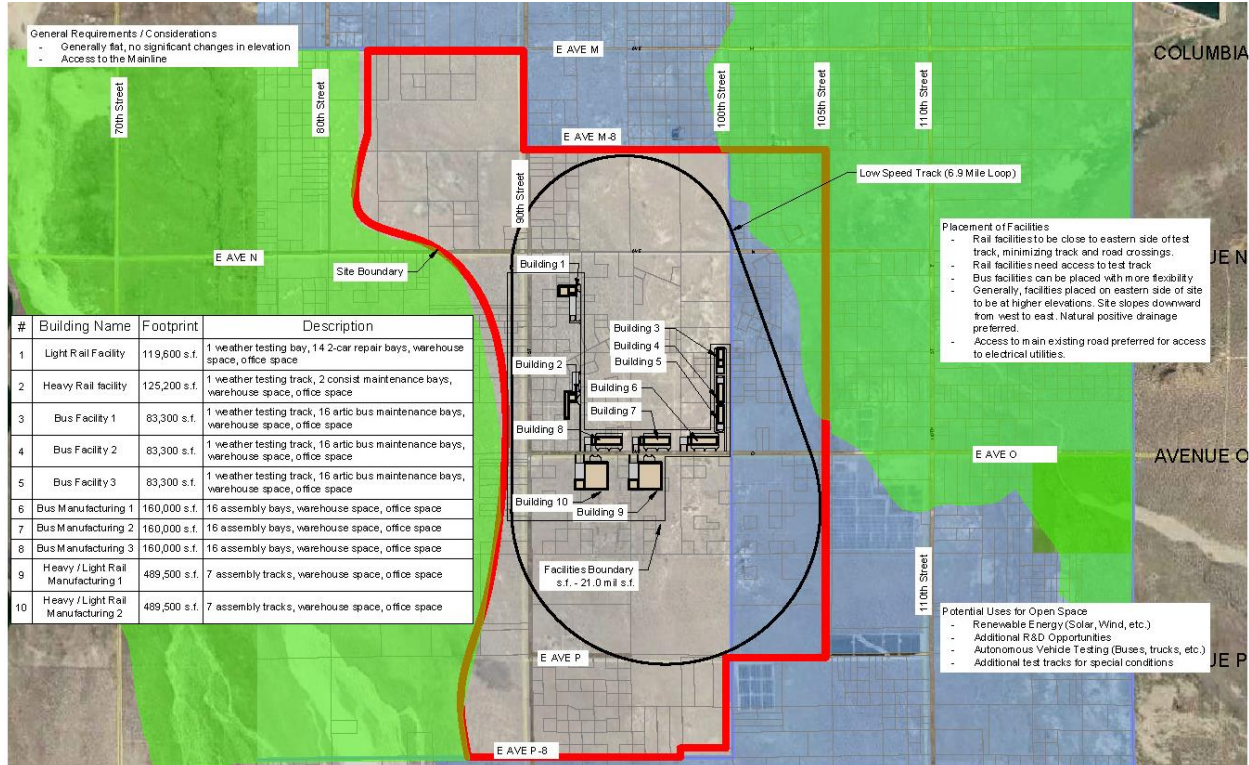
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Stephanie N. Wiggins
Chief Executive Officer

Center for Transportation Excellence Preliminary Site Plan



An illustration of a city street scene. In the foreground, a person with a backpack is walking. In the middle ground, a yellow and white Metro Local bus is stopped at a bus stop. A train is visible in the background. The scene is set against a light blue sky with traffic lights.

Center for Transportation Excellence



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April 2023

The Impetus for the Project



- **Metro has many bus, rail, and infrastructure projects with similar challenges:**
 - Limited access to vehicle and system level testing
 - Limited access to trained, skilled workforce
 - Limited access to vendors
 - Limited access to R&D facilities
 - Project and new vehicle deployment delays are often the result
- **New technologies are being incorporated in regional projects and programs**
 - Zero emission, microgrids, autonomous vehicles, high speed rail, etc. coming in next several decades
 - Project risk is reduced when expertise and testing is local
- Metro, and the region at large, needs **qualified transit workforce, including engineers and operators**

Key Site Requirements



Phase 1:

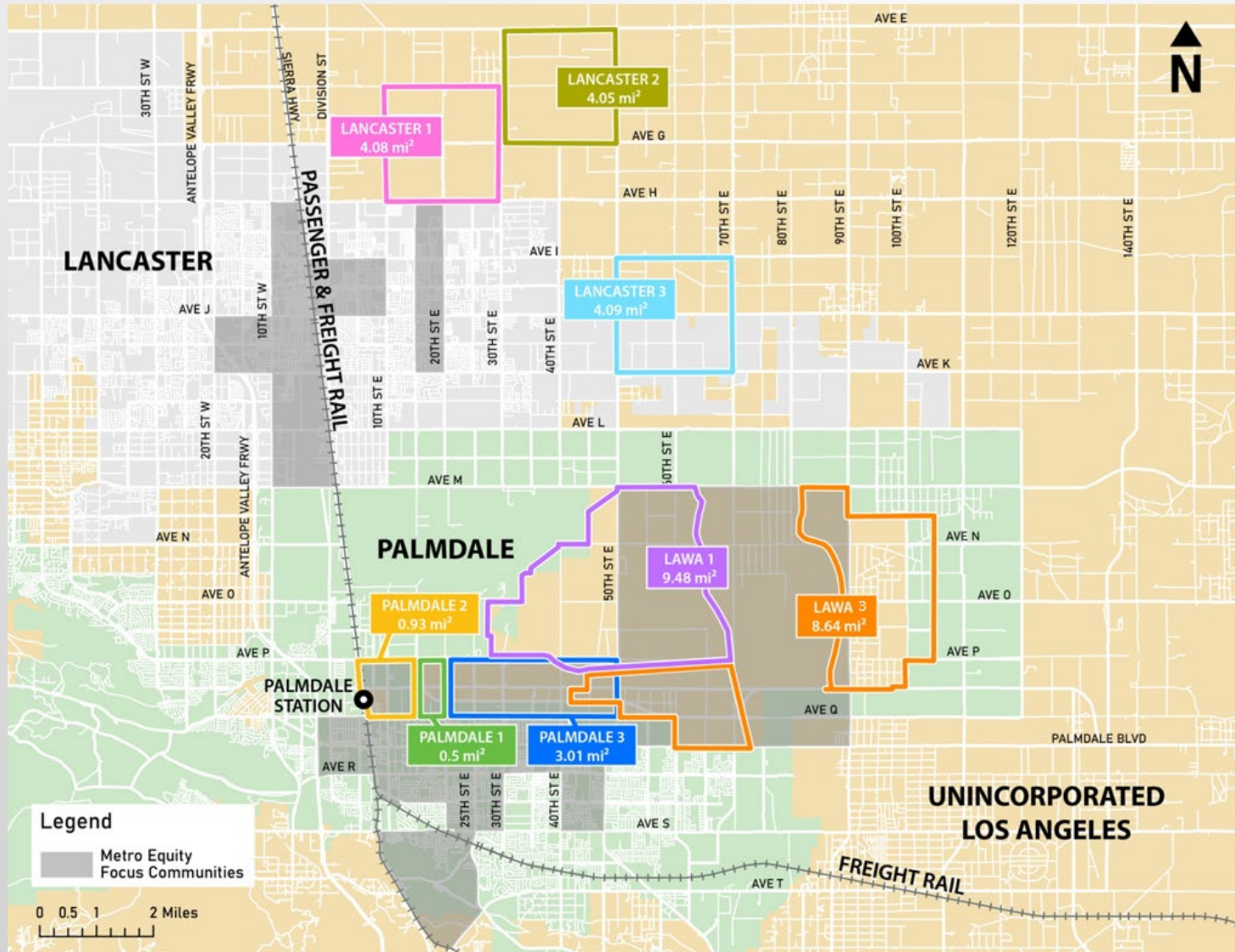
Approx. 7 square miles needed for Rail Test Tracks and Vehicle Testing Laboratories to Serve Metro and 3rd Parties, and approximately 500,000 square feet of system testing laboratories and auxiliary uses:

- Track must sustain rail vehicle speeds of 85 mph
- Advanced dynamometer for electric vehicles
- Testing for microgrids, vehicle-grid integration
- Climate room for railcar and bus HVAC testing
- Space for 3rd parties to make refinements based on tests
- Facilities for Training Engineers and Operators

Phase 2:

Two manufacturing facilities for bus and rail vehicle assembly, collectively sized at 1,500,000 square feet.

Identification of a Suitable Site



Site Evaluation Summary



Property Size

- *Only two of the eight sites meet the minimum criteria for light and heavy rail testing – the most critical criteria.*

The sites performed the same under all other criteria:

Proximity to rail corridor

- All sites were within six miles of a rail corridor. One site contained a rail spur within its boundary.

Zoning

- Six of the eight sites fall within two jurisdictions to varying degrees: Unincorporated Los Angeles County and the City of Palmdale. Two sites are entirely within Unincorporated LA. Each of the sites show an array of zoning designations, including Residential, Commercial, Industrial, Manufacturing, and Agricultural.

Flood plains

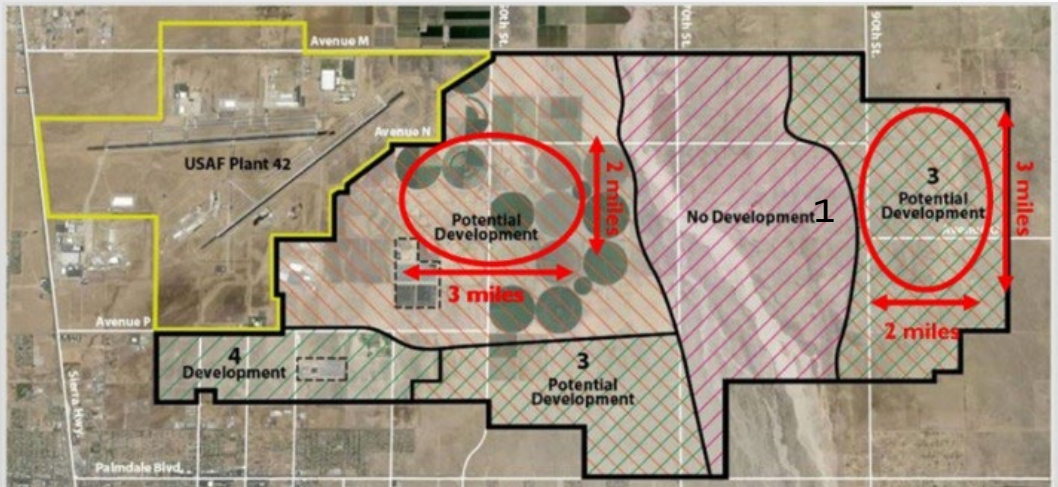
- All but one site fall at least partially within an existing flood hazard zone.

Local Public Transportation

- All but two sites are adjacent to or include local transit routes.



LAWA Properties



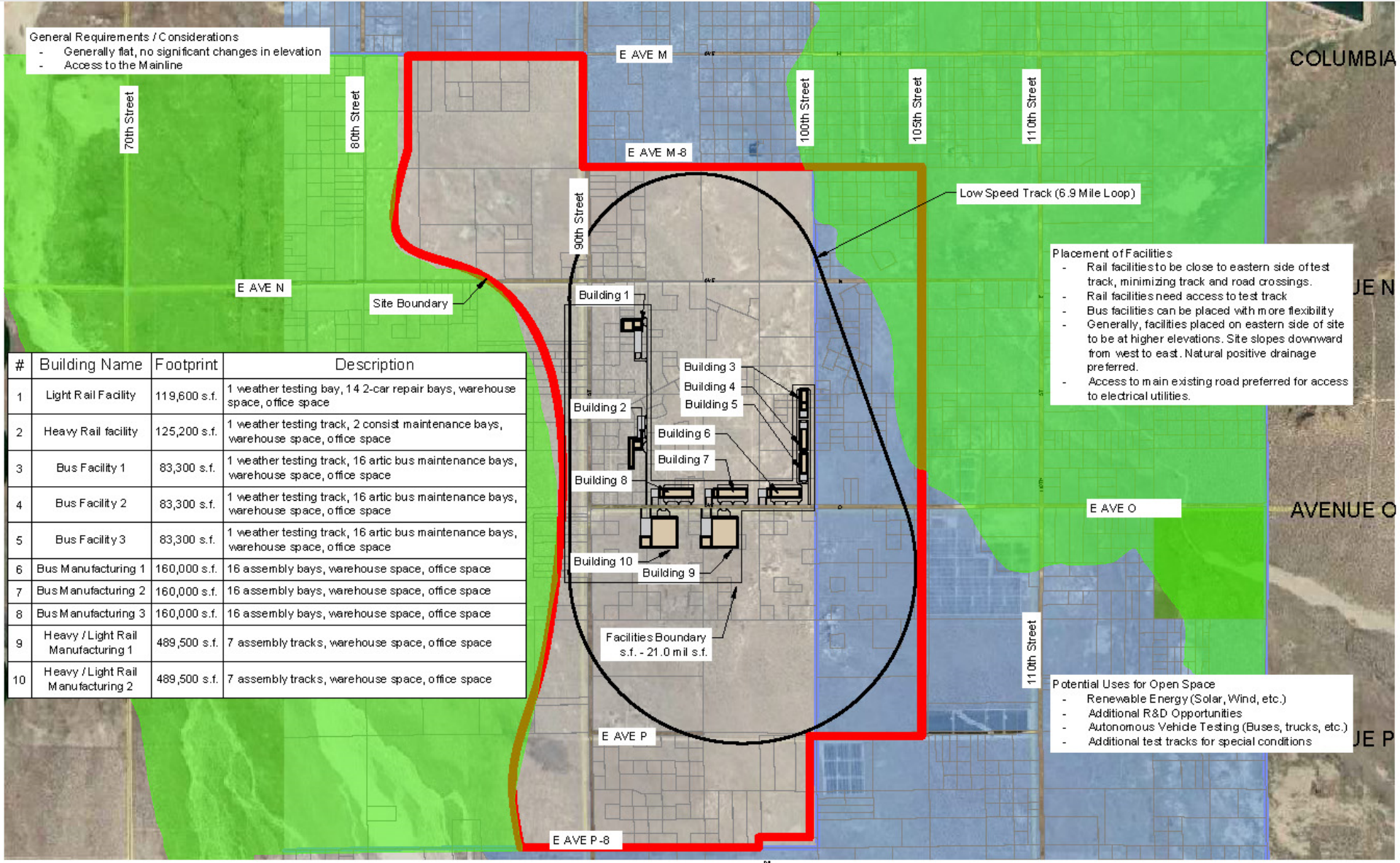
- Adequate Size
- Public and Willing Property Owner
- No existing built improvements on the Property
- Proximity to future High Desert Corridor
- Equity Focused Community

Conceptual Site Plan



General Requirements / Considerations

- Generally flat, no significant changes in elevation
- Access to the Mainline



Placement of Facilities

- Rail facilities to be close to eastern side of test track, minimizing track and road crossings.
- Rail facilities need access to test track
- Bus facilities can be placed with more flexibility
- Generally, facilities placed on eastern side of site to be at higher elevations. Site slopes downward from west to east. Natural positive drainage preferred.
- Access to main existing road preferred for access to electrical utilities.

Potential Uses for Open Space

- Renewable Energy (Solar, Wind, etc.)
- Additional R&D Opportunities
- Autonomous Vehicle Testing (Buses, trucks, etc.)
- Additional test tracks for special conditions

#	Building Name	Footprint	Description
1	Light Rail Facility	119,600 s.f.	1 weather testing bay, 14 2-car repair bays, warehouse space, office space
2	Heavy Rail facility	125,200 s.f.	1 weather testing track, 2 consist maintenance bays, warehouse space, office space
3	Bus Facility 1	83,300 s.f.	1 weather testing track, 16 artic bus maintenance bays, warehouse space, office space
4	Bus Facility 2	83,300 s.f.	1 weather testing track, 16 artic bus maintenance bays, warehouse space, office space
5	Bus Facility 3	83,300 s.f.	1 weather testing track, 16 artic bus maintenance bays, warehouse space, office space
6	Bus Manufacturing 1	160,000 s.f.	16 assembly bays, warehouse space, office space
7	Bus Manufacturing 2	160,000 s.f.	16 assembly bays, warehouse space, office space
8	Bus Manufacturing 3	160,000 s.f.	16 assembly bays, warehouse space, office space
9	Heavy / Light Rail Manufacturing 1	489,500 s.f.	7 assembly tracks, warehouse space, office space
10	Heavy / Light Rail Manufacturing 2	489,500 s.f.	7 assembly tracks, warehouse space, office space

Facilities Boundary
s.f. - 21.0 mil s.f.

Summary of Due Diligence and Planning



- **Activities Completed**
 - Prepare Site Lay Out
 - Complete Initial feasibility assessment of Utility Service
 - Complete Land Use and Environmental Assessment
- **Complicating Dynamics**
 - Site is located between two Sensitive Ecological Areas, biological review critical to assessing feasibility of development
 - LA City Charter only authorizes LAWA to enter into 50- year lease
 - Site is located in both unincorporated LA County and City of Palmdale, will need to determined most appropriate entitlement pathway

Next Steps



- Continue planning activities at LAWA_{3E}, including developing a conceptual budget, entitlement, and environmental clearance strategy,
- Complete biological surveys to confirm no fatal site conditions
- Engage the County of Los Angeles, LAWA, the surrounding local jurisdictions, industry stakeholders, to discuss potential partnerships, site control strategies and governing models to advance the project.
- Conducts a financial feasibility analysis and a subsequent financing plan that layers multiple public and private sources.
- Prepare an economic impact study through the Los Angeles Economic Development Corporation (LAEDC).
- Pursue funding opportunities, including appropriations as part of the State and Federal budgets to support planning activities.

Feedback and Questions



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Thank you!