



PART 3

Initial Observations: Constraints and Opportunities



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A. Planning and Design

Opportunities

- » The study area is centrally located between major business and tourist destinations of Orange and Los Angeles Counties, with excellent regional accessibility and visibility, positioning the area for long-term economic success.
- » The study area is located close to the stable historic neighborhood of California Heights and the thriving mixed-use employment center at Douglas Park. Strengthening connections with these areas will help anchor the study area for success. For example, incorporating design features in new developments or redevelopments that contain thematic elements found in Douglas Park or California Heights; and providing a continuous and seamless streetscape between areas will help to strengthen connections. A low number of property owners and large parcel configurations provide opportunities to work with property owners to improve street frontages and gateways into the study area, particularly the gateways heading north into the study area at both Walnut Avenue and Cherry Avenue, and the main entrance into the study area at the intersection of Wardlow Road and Cherry Avenue.
- » Large, vacated industrial space previously occupied for the manufacturing of the C-17 planes provide opportunities for reuse.
- » The installation of connectivity improvements and a master streetscape plan would help encourage other modes of transportation, improve traffic flow, enhance environmental quality, and potentially drive new investment to this area.
- » As part of the due diligence process, the C-17 site should be reviewed for its role in Southern California's aerospace industry.
- » The majority of the study area lies outside of the airport's 65 dB CNEL contour. Additionally, the western portion of the study area between the dual east/west runways are not routinely overflown by aircraft. Therefore, most nonresidential uses would be acceptable within this area from a noise-compatibility standpoint.

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- » The northeast portion of the study area, exposed to high levels of aircraft noise (i.e., within the 65 dB CNEL contour), would be well suited for future aviation uses (e.g., aircraft parking), transportation-related uses (vehicle parking facilities), or other uses that generate high levels of noise themselves.
- » As indicated in Figures 24a through 26, future land uses within Handbook Safety Zone 6 would be subject to few restrictions, thereby allowing a vibrant mix of nonresidential uses.
- » Figure 25, Existing Constraints Map: Safety and Noise, shows the existing safety zones reflecting the current runway configuration. Figure 26, Future Constraints Map: Safety and Noise, shows the safety zones once the north-south runways are closed and Runway 7R-25L is shortened and shifted northward. As can be seen in these figures, the future safety zones are smaller than the existing safety zones, thereby allowing more intensive development to occur within the study area.
- » As indicated in Figure 27, Allowable Height Map, Existing Conditions, future structures underlying the FAA Regulation Part 77, airspace surface would be allowed to have heights between 56 and 176 feet.
- » The large block structure, auto-oriented uses, and lack of continuous landscaping and other streetscape amenities, increase traffic and discourage pedestrians from frequenting this area by foot.
- » Given the study area's proximity to LGB, noise-sensitive uses (e.g., residential uses, nursing homes, outdoor amphitheaters) would not be appropriate uses.
- » A small portion in the northeast corner of the study area is affected by the 65 dB CNEL contour. Generally, most new land uses would be inappropriate in this area.
- » Portions of the study area immediately west of the approach end of Runway 7R and along the eastern half of the study area are exposed to routine overflight by fixed-wing or rotor-wing aircraft. Routine overflight by low-flying aircraft may preclude certain types of outdoor uses (e.g., amphitheaters).
- » A small portion of the study area immediately west of the approach end of Runway 7R falls within the Runway Protection Zone. Generally, all new structures would be inappropriate in this zone, unless they serve an aeronautical function.
- » Portions of the study area underlying Handbook Safety Zones 1, 2, 3, 4, and 5 would be required to comply with the intensity (people per acre) limits and other safety compatibility criteria.
- » The portion of the study area immediately west of the approach end of Runway 7R will be subject to the most stringent height limits (e.g., as low as 16 feet).
- » New structures along the northern and eastern edges of the study area would be subject to height limits as low as 36 feet (see Figure 27, Allowable Height Map).
- » All land use features that would create electronic, physical, or visual hazards (e.g., thermal plumes, glare) would be prohibited within the study area.

Constraints

- » Long Beach has adopted a firm policy to limit growth of the airport area to protect surrounding residential neighborhoods from the noise and other hazards of frequent overflights. New land uses will have limitations with respect to placement, height, and occupancy in some locations.
- » Managed growth is a large concern in the City, and new development must address impacts on environmental quality with regard to air and water quality, industrial hazards, and unmitigated traffic impacts.

B. Circulation and Mobility

Opportunities

- » Developing the site as part of an overall master plan would help improve continuity from parcel-to-parcel, as well as provide the opportunity to focus access to major connectors.
- » Breaking up larger blocks to incorporate a more walkable environment, and offering basic services within easy walking distance, will promote physical activity in the working environment, an important objective for the City.
- » The installation of connectivity improvements and a master streetscape plan could help encourage other modes of transportation, alleviate traffic, and potentially drive new investment to this area.
- » The Long Beach General Plan identifies that in the future, Lakewood Boulevard will be classified as a major transit street while Cherry Avenue, Wardlow Road, and Carson Street will be classified as secondary transit streets. This would increase bus headways to 20 minutes or greater during the commuter peak hours. On-street parking will be prohibited when possible during the commuter hours to minimize disruption to bus flow. Further enhancements, such as bicycle storage facilities at major stops, would create a seamless link between the bicycle and transit network.

Figure 24a. Airport Compatibility Criteria for the Boeing C-17 Site

Zone	Locations	Maximum Densities / Intensities			Additional Criteria	
		Residential (d.u./ac) ¹	Other Uses (people/ac) ²		Prohibited Uses ³	Other Development Conditions ⁴
		Average ⁵	Single Acre ⁶			
1	Airport Clear Zone	0	0	0	<ul style="list-style-type: none"> › All new structures except ones with location set by aeronautical function › Assemblages of people › Residential land uses › Any storage of hazardous materials 	<ul style="list-style-type: none"> › Maintain all undeveloped land clear of objects › Avigation easement dedication ⁷
2	Inner Approach Zone	0	80	160	<ul style="list-style-type: none"> › All objects exceeding FAR Part 77 height limits › All buildings with more than three above-ground habitable floors › Labor-intensive industrial uses › Assembly uses (e.g., meeting halls, stadiums) ⁸ › Uses containing vulnerable occupants (e.g., children's schools) ⁹ › Manufacture, processing, or bulk storage of hazardous materials › Critical community infrastructure ¹⁰ 	<ul style="list-style-type: none"> › Sound attenuation required to achieve an interior noise limit of 45 dB CNEL › Uses containing hazardous materials require special review ¹¹. › Avigation easement dedication ⁷
3	Airport Timing Zone	Infill	150	450	<ul style="list-style-type: none"> › Residential uses in 60 dB CNEL › Single-family residential uses › No Assembly uses (e.g., stadiums) › Uses containing vulnerable occupants (e.g., children's schools) › Manufacture, processing, or bulk storage of hazardous materials › Critical community infrastructure ¹² 	<ul style="list-style-type: none"> › Uses containing hazardous materials require special review ¹³ › Residential dwellings must be sound insulated to achieve an interior noise level of 45 dB CNEL ⁶ › FAA airspace determination of no hazard required › Avigation easement dedication ⁷
4	Outer Approach Zone	Infill	200	600	<ul style="list-style-type: none"> › Residential uses in 60 dB CNEL › Single-family residential uses › Uses containing vulnerable occupants (e.g., children's schools) › Assembly uses (e.g., stadiums) 	<ul style="list-style-type: none"> › Residential dwellings must be sound insulated to achieve an interior noise level of 45 dB CNEL ⁶
5	Airport Sideline Zone	0	150	450	<ul style="list-style-type: none"> › Assembly uses (e.g., stadiums) › Uses containing vulnerable occupants (e.g., children's schools) › Manufacture, processing, or bulk storage of hazardous materials › Critical community infrastructure ¹² 	<ul style="list-style-type: none"> › Uses containing hazardous materials require special review ¹³ › FAA airspace determination of no hazard required › Avigation easement dedication ⁷
6	Other Airport Environs	No Limit	No Limit	No Limit	<ul style="list-style-type: none"> › Residential uses in 60 dB CNEL › Single-family residential uses › Large stadiums and similar very high-intensity uses¹² 	<ul style="list-style-type: none"> › Residential dwellings must be sound insulated to achieve an interior noise level of 45 dB CNEL ⁶ › Uses containing hazardous materials require special review ¹³ › Locate uses with vulnerable occupants maximum distance from airport and principal flight tracks ^{5,11} › Avigation easement dedication ⁸

Source: Mead & Hunt, Inc. based on statewide guidance provided in California Airport Land Use Planning Handbook (October 2011).

Airport Compatibility Criteria For Boeing C-17 Study Area

Figure 24b. Airport Compatibility Criteria for the Boeing C-17 Site

NOTES:

- ¹ Infill residential development must not exceed the average density of comparable surrounding uses. For mixed-use development criteria, the normal occupancy of the residential component must be added to that of the nonresidential component and the total occupancy shall be evaluated with respect to the nonresidential usage intensity criteria.
- ² Usage intensity calculations must include all people (e.g., employees, customers/visitors, etc.) who may be on the property at a single point in time, whether indoors or outside. Exceptions may be allowed for rare special events where special precautions can be taken to minimize hazards to the facility and occupants if the facility were to be struck by an aircraft.
- ³ The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. Uses incapable of satisfying the density/intensity criteria are also prohibited.
- ⁴ Avoidance of a use means that the use should be allowed only if a site outside the zone would not serve the intended function. When allowed, special measures should be taken to minimize hazards to the facility and occupants if the facility were to be struck by an aircraft.
- ⁵ The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the site acreage.
- ⁶ Clustering of nonresidential development is permitted provided that no single acre of a project site exceeds the indicated number of people per single acre.
- ⁷ Dedication of an aviation easement should be required as a condition of project approval.
- ⁸ Assembly uses include, but are not limited to, stadiums, group recreational facilities, theatres, meeting halls, and major shopping centers.
- ⁹ Uses containing vulnerable occupants include, but are not limited to, children's schools (grades K-12); large day care center (serving more than 14 children as defined in the California Health and Safety Code); in-patient hospitals, mental hospitals, nursing homes and similar medical facilities where patients remain overnight; and penal institutions.
- ¹⁰ Critical community infrastructure facilities to be prohibited include, but are not limited to, public safety facilities (e.g., police and fire stations), communication facilities (e.g., broadcast, cell phone towers), renewable energy plants, electrical substations and other utilities.
- ¹¹ Permitting agencies must comply with all federal, state, and local standards regarding hazardous materials and shall evaluate need for special measures to minimize hazards to nearby people and property if the facility were to be struck by an aircraft.
- ¹² In general, these uses are ones with occupancies of more than 1,000 people in a confined area.

**Airport Compatibility Criteria
For Boeing C-17 Study Area**

Figure 25. Existing Constraints Map: Safety and Noise

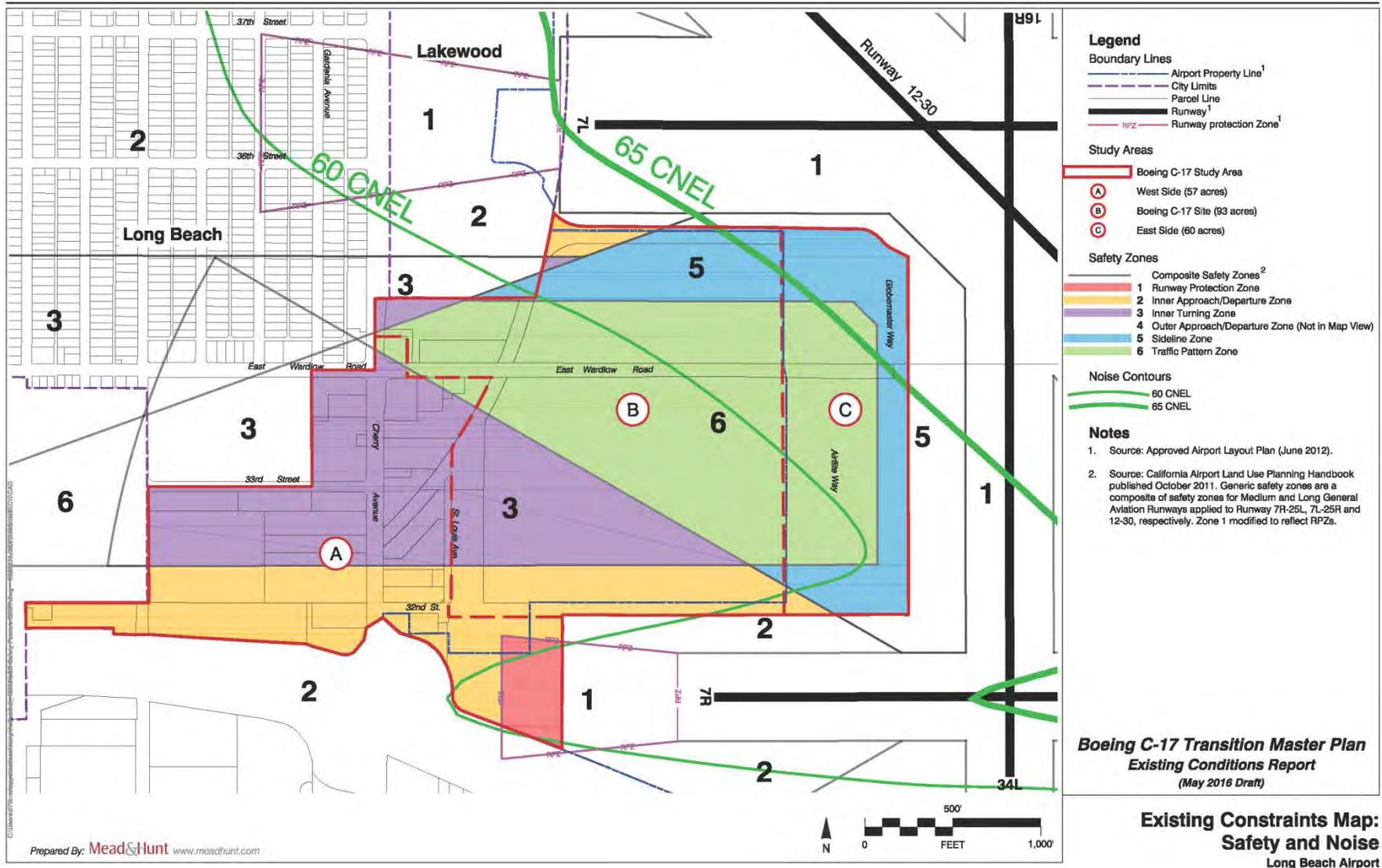
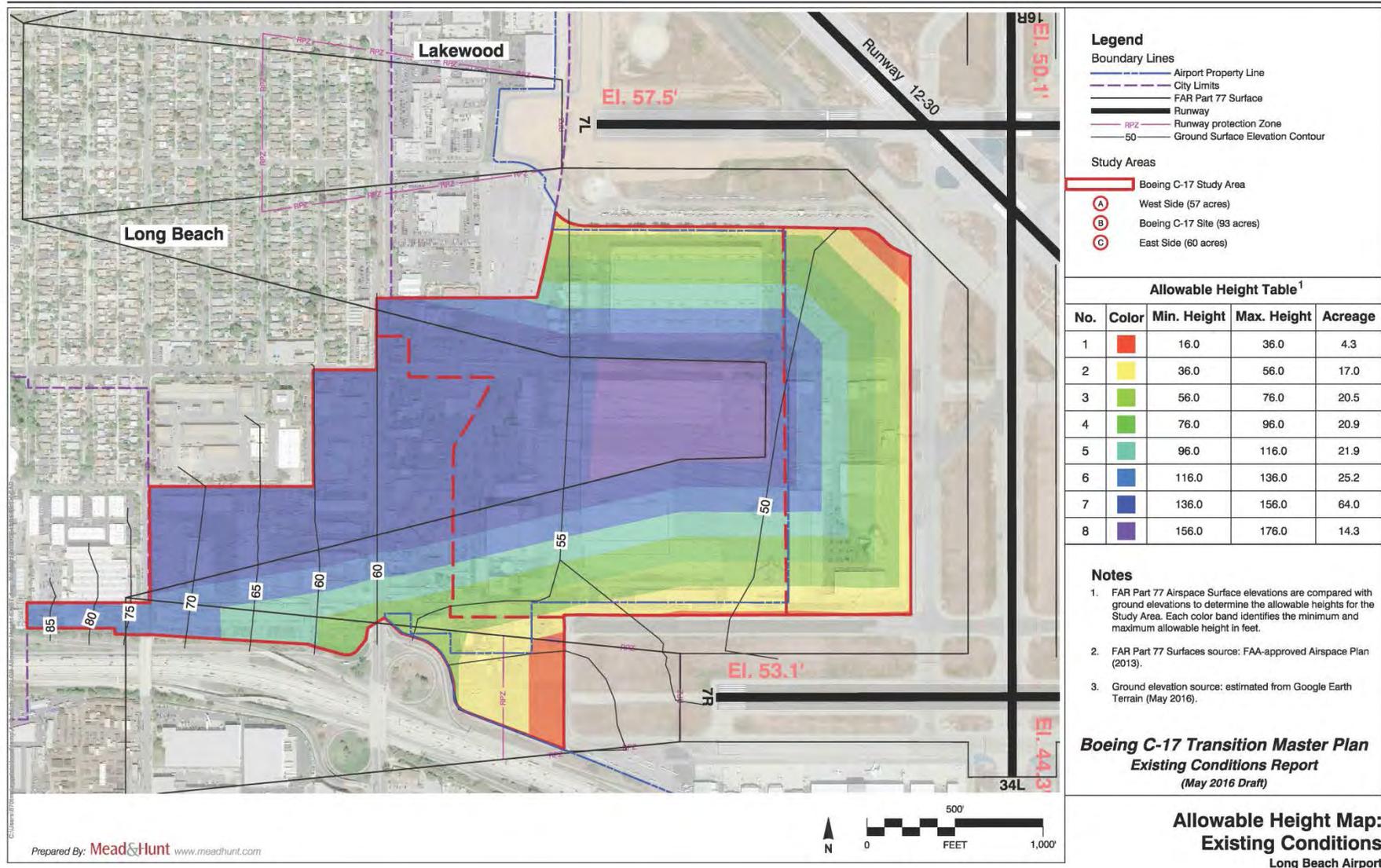


Figure 26. Future Constraints Map: Safety and Noise



Figure 27. Allowable Height Map, Existing Conditions



Initial Observations: Constraints and Opportunities

- » It is important to consider ways to improve the environmental quality of the study area to reduce exposure of environmental hazards to nearby sensitive uses. Improving the environmental health of buildings and sites, as well as improving the quality and safety of streetscapes, will have a positive impact on the long-term health of local residents and employees.
- » Including recreational amenities in the study area may benefit the workforce and the overall walkability of the area.
- » Roadway conditions will need to be assessed for their adequacy to accommodate future growth and development, including their ability to accommodate a wide range of vehicles. Any needed upgrades to bring the condition of roads up to standard should be identified.
- » Within the Long Beach General Plan, Cherry Avenue has been identified as a street with the opportunity to change its characteristics. The City is open to the idea of creating a more complete street, which will meet the needs of all users (e.g., pedestrians, bicyclists, transit riders).
- » Wayfinding could be installed at the major gateways directing vehicles to specific parking areas and/or buildings.
- » The future bicycle master plan identifies the installation of a Class II bicycle facility along Spring Street. In addition, there are streets that could have bicycle facilities added to them, such as 33rd Street, Cherry Avenue, and/or Wardlow, Road which would help increase bicycle connectivity to the current facilities.

Constraints

- » Internal connectivity throughout the site is rather difficult due to disjointed parcels and minimal road networks.
- » Minimal wayfinding to and from the site is provided.
- » There is a lack of bicycle facilities directly connecting to the site. The addition of bicycle facilities would result in the loss of parking on most nearby streets.

C. Infrastructure

Opportunities

- » The study area is an infill area with infrastructure already in place to support new development. While new development will need to be evaluated to determine demand on service providers, and may require additional capacity, ultimately, new improvements are supported by a larger water, sewer, and storm drain infrastructure network already in place.

Constraints

- » Water and Wastewater Master Plans are needed to better assess the current infrastructure and specifically identify existing “choke points” and potential future land use constraints.
- » Coordination with SCE will be required to evaluate future land use scenarios in regards to energy demand as all of the substations servicing the area appear to be at or near capacity.



An aerial view from the perspective of someone sitting in an airplane, looking out from under the wing. The wing and a landing gear door are visible at the top. Below, a coastal city is visible, featuring a sandy beach, palm trees, and residential buildings. In the background, a large harbor or bay is filled with water, with several large cranes and industrial structures on the distant shore. The sky is clear and blue. A semi-transparent white box with the word "REFERENCES" is overlaid on the middle of the image. A vertical orange bar runs down the right side of the image, and a horizontal green bar is at the top right.

REFERENCES



References

- Caltrans (California Department of Transportation). 2011. *California Airport Land Use Planning Handbook*. Caltrans Division of Aeronautics. October 2011. <http://www.dot.ca.gov/hq/planning/aeronaut/document/alucp/AirportLandUsePlanningHandbook.pdf>.
- City of Long Beach. 1988. Title 21: Zoning Regulations of the Long Beach. https://www2.municode.com/library/ca/long_beach/codes/municipal_code?nodeId=TIT21ZO.
- City of Long Beach. 1989. City of Long Beach General Plan Land Use Element, Part 1, Part 2, and Map. July 1, 1989. http://www.lbds.info/planning/advance_planning/general_plan.asp.
- City of Long Beach. 2012. Long Beach Airport Layout Plan (ALP).
- City of Long Beach. 2012. Long Beach Airfield Geometry Study.
- City of Long Beach. 2013. City of Long Beach General Plan Mobility Element. October 2013. <http://www.lbds.info/civica/filebank/blobload.asp?BlobID=4112>.
- City of Long Beach. 2015. Comprehensive Annual Financial Report, Fiscal Year Ended September 30, 2015. Prepared by the Department of Financial Management. <http://www.longbeach.gov/finance/media-library/documents/city-budget-and-finances/accounting/cafr/fiscal-year-2015-cafr/>.
- County of Los Angeles. 1991. Los Angeles County Airport Land Use Plan. Los Angeles County Airport Land Use Commission. Adopted December 19, 1991; revised December 1, 2004. http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf.
- County of Los Angeles. 2004. Los Angeles County Airport Land Use Commission Review Procedures. Los Angeles County Regional Planning Commission/Airport Land Use Commission. December 2004. http://planning.lacounty.gov/assets/upl/project/aluc_review-procedures.pdf.
- DOF (California Department of Finance). 2016. "E-1 Population Estimates for Cities, Counties, and the State—January 1, 2015 and 2016." Sacramento, California, May 2016. <http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php>.
- EMSI (Economic Modeling Specialists International). 2014. "The Impact of Boeing's Long Beach Plant Closure and How Workforce Practitioners Can Respond Using Data." September 3, 2014. <http://www.economicmodeling.com/2014/09/03/examining-the-impact-of-boeings-long-beach-plant-closure-and-how-workforce-practitioners-can-respond-using-data/>.

- FAA (Federal Aviation Administration). 2007. Advisory Circular 70/7460-1K, Obstruction Marking and Lighting. Issued February 1, 2007; Cancelled December 4, 2015. Replaced by Advisory Circular 70/7460-1L. http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentid/74452.
- FAA. 2010. Federal Aviation Regulations (FAR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. July 21, 2010. <http://www.ecfr.gov/cgi-bin/text-idx?SID=|c957224f6e2b4fb1f2fc236f5da09558&node=pt14.2.77&rgn=div5>.
- FAA. 2012. Advisory Circular 150/5300-13A, Airport Design. September 28, 2012. http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentnumber/150_5300-13.
- LBWD (Long Beach Water Department). 2011. 2010 Urban Water Management Plan. Adopted June 2, 2011. <http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Long%20Beach%20Water%20Department/2010%20UWMP%20FINAL%20Board-adopted%20110602.pdf>.