



THE CITY OF SAN DIEGO
REPORT TO THE PLANNING COMMISSION

DATE ISSUED: July 6, 2012 **REPORT NO. PC- 12-067**
ATTENTION: Planning Commission, Agenda of July 12, 2012
SUBJECT: AFFORDABLE HOUSING PARKING REGULATIONS (PROCESS 5)
REFERENCE: City Council Reports 07-132 and 11-152

SUMMARY

Issues:

1. Should the Planning Commission recommend to the City Council approval of amendments to regulations to address parking requirements for regulated affordable housing in the Municipal Code (Chapter 14, Article 1, Divisions 3 and 4; Chapter 14, Article 2, Division 5; Chapter 14, Article 5, Division 40; Chapter 15, Article 1 Division 1; and Chapter 15, Article 7, Division 4), and the City's Local Coastal Program based on the findings and recommendations of the San Diego Affordable Housing Parking Study?
2. Should the Planning Commission recommend to the City Council approval of the Land Development Manual – Calculating Affordable Housing Parking Requirements?

Staff Recommendations:

1. Recommend that the City Council ADOPT the amendments to the Municipal Code and the City's Local Coastal Program.
2. Recommend the City Council ADOPT the Land Development Manual - Calculating Affordable Housing Parking Requirements.

Land Use & Housing Committee of the City Council (LU&H):

- On August 1, 2007 LU&H jointly held a workshop with the Planning Commission on parking regulations and requested staff develop parking requirements for regulated affordable housing based on a scientific study that uses local data.
- On November 16, 2011 LU&H staff returned to LU&H to provide an update on the findings of the draft San Diego Affordable Housing Study and a preliminary draft of regulations that could implement the recommendations of the study. The Committee requested the following:
 - That the report be finalized,
 - Present the report results to the Community Planners Committee,
 - That staff work with the Technical Advisory Committee and the Code Monitoring Team,

- That if no substantive changes are made go directly to the Planning Commission prior to City Council,
- That staff bring forward recommendations utilizing surplus parking in existing over-parked affordable housing developments
- That staff present the report to any community planning group that requests to hear the item and provide input.

Centre City Development Corporation Board: On October 5, 2011 the draft San Diego Affordable Housing Study was presented to the Center City Development Corporation Board. On June 12, 2012 the Board Committee voted 5-0 to support the proposed regulations.

Code Monitoring Team (CMT): The affordable housing parking regulations were first presented to the CMT on December 14, 2011. On April 11, 2012, the CMT voted 7-1 to recommend the City Council adopt the regulations.

Community Planners Committee (CPC): On April 24, 2012 the CPC recommended the City Council not adopt the proposed Affordable Housing Parking Regulations because the regulations are inadequate to meet the parking need in the low- and moderate-income areas, and because the regulations will create severe street parking congestion in the future by a vote of 14-7-2.

San Diego Housing Federation: On October 19, 2011 the San Diego Housing Federation Board of Directors unanimously voted to support the draft Affordable Housing Parking Regulations.

San Diego Regional Chamber of Commerce: On April 18, 2012 the Housing Committee of the Chamber unanimously voted to conceptually approve the draft Affordable Housing Parking Regulations with the caveat that that the regulations represent a good start in addressing parking requirements for affordable housing.

Southeastern Development Corporation Board: On October 26, 2011 the draft San Diego Affordable Housing Study was presented Southeastern Development Corporation Board.

Technical Advisory Committee (TAC): On May 9, 2012 the TAC recommended by a vote of 12-0 that the City Council adopts the draft Affordable Housing Parking Regulations with a caveat the number of disabled parking spaces be the same as would otherwise be required. This has been incorporated into the regulations.

Additional Public Outreach:

- The study entailed an extensive public outreach effort that included a public workshop; focus group meetings of affordable housing and special needs advocates, affordable housing developers, business improvement districts, project area committees and planning group chairs; presentation to the Community Planners Committee; web posting and e-blast of fact sheets and a workshop announcement to approximately 2,800 individuals including all community planning group members.

- The study formed a project working group comprised of representatives the San Diego Housing Federation, the Building Industry Association, San Diego Apartment Association, San Diego Chamber of Commerce, Parking Advisory Committee, Community Planners Committee, Redevelopment Project Area Committee, Technical Advisory Committee to Land Use & Housing, Business Improvement District Council, Bridge Housing, Community Housing Works, and the law firm of Prairie Schwartz Heidel. The Project Working Group had a total of four meetings.
- The draft Affordable Housing Parking Regulations and the final San Diego Affordable Housing Parking Study were made available to all individuals and organizations on the City Planning Divisions' interested party's list for a two week review and comment period beginning on May 4, 2012 until May 18, 2012. The list contains approximately 2,800 contacts including the members of the City's community planning groups. The draft amendments have also been posted on the Development Services Department's website with instructions on how to comment.

Environmental Review: Negative Declaration 11002485 has been prepared for the project in accordance with the State of California Environmental Quality Act (CEQA) Guidelines.

Fiscal Impact Statement: This effort was funded equally by the Centre City Development Corporation, the Southeastern San Diego Development Corporation, the San Diego Housing Commission, and the City's former Redevelopment Department

Code Enforcement Impact: No additional code enforcement costs are anticipated with adoption of this ordinance.

Housing Impact Statement: The proposed amendment has the potential to increase the number of affordable housing units due to cost savings associated with reduced parking.

BACKGROUND

With equal funding contributions from Centre City Development Corporation, Southeastern San Diego Development Corporation, the San Diego Housing Commission, and the City's former Redevelopment Department, the consultant services of Wilbur Smith Associates were retained to prepare a parking study of regulated affordable housing projects. For the purposes of the study, "regulated affordable housing projects" were defined as developments receiving government subsidy in some form and/or having tenant/owner income restrictions, occupancy restrictions and/or deed restrictions to ensure the long-term affordability of the housing units. The key objectives of the study were to evaluate parking demand at local affordable housing developments, identify how parking demand is affected by project and neighborhood characteristics, and develop recommendations for parking requirements for future affordable housing projects.

DISCUSSION

The study entailed conducting a comprehensive data collection effort of existing local affordable housing project sites, analyzing parking demand, reviewing best practices in similar cities and

soliciting input from focus groups, and developing recommendations for parking requirements for future affordable housing projects. Below is a summary of each of these components. For more information, the draft study report is available online at: [Affordable Housing Parking Study Final Report - December 31, 2011](#).

Data Collection and Parking Demand Analysis

A list of 138 affordable housing project sites with 80% or more deed-restricted affordable units was compiled from records maintained by the San Diego Housing Commission and the Redevelopment Agency (which includes Center City Development Corporation, the Southeastern Economic Development Corporation and the Redevelopment Department). The list included both rental and ownership developments of various types of housing. Using statistical methods, a representative sample of 34 sites was selected based on project type and size, land use context, transit quality and availability and geographic distribution.

Detailed data was collected from the selected affordable housing sites including parking demand and conditions through surveys of residents and property managers, counts between the hours of 12AM and 4AM of on-site and surrounding areas parking occupancy, and land use and transportation characteristics.

Data from household surveys and field observations were statistically analyzed using qualitative and quantitative methods to examine parking demand and factors that affect it. These factors included income levels, household age, transit accessibility, land use context and housing type. The data analysis revealed the following key findings:

- Parking demand for affordable projects is about one half of typical rental units in San Diego; almost half the units surveyed had no vehicle.
- Parking demand varies with type of affordable housing (i.e., Family Housing versus SRO); higher demand is also associated with larger unit size and higher income.
- Parking demand is less in areas with many walkable destinations and high transit availability.
- In all of the projects studied, the amount of peak overnight parking used was less than the amount supplied.

A parking model was developed based upon the findings in the statistical analysis. It provided empirically-based rates for four types of affordable housing: Family, Living Unit/SRO, Senior Housing, and Studio - 1 Bedroom. Case studies of affordable housing projects were used to test the model's predictions. The model accounts for resident parking, visitor parking, staff parking and a parking vacancy factor. The vacancy factor provides some extra parking spaces to help residents, visitors and staff find convenient spaces. It also provides for unique times (or unique projects) when parking demand is higher than normal. This would occur if the residential occupancy per unit is higher than normal, leading to an increased parking demand. The model's predictions were compared with those determined based on existing parking requirements, as built supply of parking and observed parking occupancy patterns. The model showed that the current Land Development Code, with adjustments for transit, income and project location zones, requires parking levels that are generally aligned with those predicted by the model.

Best Practices and Input from Focus Groups

The study also documented best practices in similar cities including Long Beach, Los Angeles, Santa Barbara, Pasadena, San Leandro, Santa Clara, Denver and Portland. Cities are moving away from “one-size-fits all” parking requirements to methods that rely on a combination of local parking demand studies for specific uses and clear articulation of policy priorities. Cities are integrating new parking requirements with broader parking management strategies as well as smart growth goals and strategies.

As part of the public outreach effort, meetings with focus groups were held to get a better understanding of parking constraints and needs. The focus groups included business groups, project area committees and planning group chairs, affordable housing developers and affordable housing advocates. Feedback from these focus groups indicated that parking constraints and needs vary across San Diego neighborhoods and types of housing, there are local concerns about possible parking spillover into neighborhoods, and reduced parking requirements can increase project financial feasibility.

Recommendations

The study recommended that parking requirements for affordable housing be calculated based on the type and unit size of affordable housing and its context in terms of transit availability and walkability. The project context is expressed as high, medium, or low based on land use (commercial and civic uses and densities) and transit (existence of service, type of service and peak service frequencies) contexts. The study also recommended the inclusion of provisions for visitor and staff parking at 0.15 spaces/unit and 0.05 spaces/unit, respectively, and a base vacancy factor of 10%. The study also recommended the use of unassigned parking. The recommended parking rates were determined based on the parking model.

Draft Regulations

The draft Affordable Housing Parking Regulations (Attachment 1) have been written to very closely following the findings and recommendations of the study. The regulations are comprised of four primary components; definitions, parking demand, parking ratios, and supplemental regulations. The regulations also address parking for affordable housing for senior citizens in Municipal Code Section 141.0310, planned district ordinances, and changes to references.

The first component of the regulations, definitions, is self-explanatory. These definitions are provided to implement only the affordable housing parking Regulations and do not apply to any other section of the Municipal Code.

Parking demand is the second component of the regulations. The first step in determining the appropriate number of parking spaces parking for an affordable housing development is to calculate the parking demand (high, low, or medium). As was recommended in the study the regulations use three indexes; Walkability, Transit, and Walkability/Transit Index to determine parking demand. The Walkability Index is a measure of the land use diversity within a one-half mile radius of the project. The index captures those businesses, services, facilities, and employment uses that allow residents to walk rather than drive; the greater the number and diversity of the uses, the higher the index score. The Transit Index is a measure of the type and frequency of transit service within a one-half mile radius (fixed rail) and a one-quarter mile radius (bus). The greater the number of peak trips per hour the higher the index score. The

Walkability and Transit Index totals are summed and then halved to attain the Walkability/Transit Index which classifies the project as high, medium, or low parking demand.

Gathering the land use and transit information needed for the indexes would be labor and time intensive. To simplify and make information gathering consistent, a new Land Development Manual "Calculating Affordable Housing Parking Requirements" has been developed based on the GIS techniques used in the study. This is a technical manual that provides a step-by-step process for gaining the land use and transit information using GIS data layers for assessor parcel, existing land use, and transit routes and stops. The manual is provided as Attachment 2.

The third component, the affordable housing parking ratios, is provided in Table 142-05D of the regulations. The appropriate ratios are a function of the type of affordable housing, parking demand (H/M/L), the number of bedrooms per dwelling unit, and accessory factors. A worksheet for calculating the total number of required spaces using these ratios is provided on page 12 of the Land Development Manual.

The fourth component, the supplemental regulations addresses four additional regulations to be applied to parking for affordable housing. First the tandem parking is not permitted. Second, parking reductions for the Transit Overlay Zone and Parking Assessment District do not apply. Third, the number of disabled parking spaces is to be calculated using the base parking rate. And fourth, affordable housing project with more parking than required by this section may reduce the number of required parking spaces through a substantial conformance review without the requirement to amend any prior discretionary permit.

Generally, the regulations will provide for parking reductions in affordable housing projects citywide, with minimal reductions in areas of high parking demand (low land use diversity and limited transit) to significant reductions in areas of low demand (high land use diversity and 46 or greater peak hour transit trips per hour). Attachment 3 provides two examples using existing developed projects, Windwood Family Housing in Pacific Highlands Ranch (high parking demand) and Renaissance Housing for Seniors in North Park (medium parking demand). The examples identify the required (built) parking spaces, the existing parking occupancy (attained through the study), the number of parking spaces that would be required by the proposed regulations (for assigned and unassigned parking spaces), and the difference between existing occupancy and the parking spaces required by the draft regulations. In each example the parking required by the draft regulations for assigned and unassigned parking spaces exceeds the existing parking occupancy.

CONCLUSION

The draft Affordable Housing Regulations are based on the findings and recommendations of the San Diego Affordable Housing Study. That study researched auto availability at existing affordable housing developments in the City of San Diego, surveyed residents (44% response) and complex managers (100% response) regarding a number of issues including parking habits, and conducted on-site parking counts. The information gathered was analyzed and resulted in the recommendations of the study. The draft Affordable Housing Regulations very closely follow the recommendations of the study and will require affordable housing developments to supply the appropriate number of parking spaces based on the parking demand for the project.

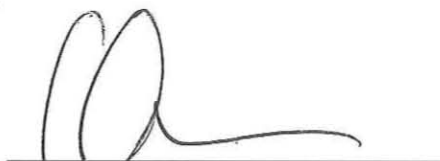
ALTERNATIVES

- Recommend that the City Council approve the Affordable Housing Parking Regulations with modification(s).
- Recommend that the City Council deny the Affordable Housing Parking Regulations.

Respectfully submitted,



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Attachments:

1. Draft Amendment for Affordable Housing Parking Regulations in Strikeout/Underline
2. Draft Land Development Manual - Calculating Affordable Housing Parking Requirements
3. Existing Affordable Housing Development Comparisons

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Chapter 14
Article 1: Separately Regulated Use Regulations
Division 3: Residential Use Category--Separately Regulated Uses

§141.0301 through §141.0308 [No Change]

§141.0310 **Housing for Senior Citizens**

Housing for senior citizens may be permitted with a Conditional Use Permit decided in accordance with Process Three in the zones indicated with a "C" in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations.

(a) through (c) [No Change]

(d) Off-Street Parking Requirements

(1) Parking ratios shall be determined in accordance with the following:

(A) The base parking requirement is 1 parking space per dwelling unit;

(2B) For facilities that provide daily meals in a common cooking and dining facility and that provide and maintain a common transportation service for residents, 0.7 parking spaces per dwelling unit plus 1 parking space for each staff person, calculated based on staffing for the peak-hour shift, shall be provided; and

(C) For affordable housing for senior citizens as defined in Section 142.0527(a) parking shall be determined in accordance with Section 142.0527.

(32) Parking areas shall be lighted for the safety of tenants. Lighting shall be of a design that deters vandalism. The location, type, and size of the proposed lighting fixtures shall be specified on the permit application.

(e) [No Change]

§141.0311 through §141.0314 [No Change]

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Article 1: Separately Regulated Use Regulations
Division 4: Institutional Use Category--Separately Regulated Uses

§141.0401 through §141.0406 [No Change]

§141.0407 Educational Facilities--Schools for Kindergarten to Grade 12 and Colleges/Universities

Educational facilities may be permitted with a Conditional Use Permit decided in accordance with Process Three in the zones indicated with a "C" in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations.

(a) through (e) [No Change]

(f) Off-street parking requirements for kindergarten through grade 12 are provided in Table 142-05FG. Off-street parking for colleges and universities shall be provided to adequately serve the facility without causing parking impacts on surrounding property.

§141.0408 [No Change]

§141.0409 Exhibit Halls and Convention Facilities

Exhibit halls and convention facilities may be permitted with a Conditional Use Permit decided in accordance with Process Four in the zones indicated with a "C" in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations.

(a) through (b) [No Change]

(c) Off-street parking shall be provided in accordance with Table 142-05FG.

§141.0410 through §141.0412 [No Change]

§141.0413 Hospitals, Intermediate Care Facilities, and Nursing Facilities

Hospitals, intermediate care facilities, and nursing facilities may be permitted with a Process Four Conditional Use Permit in the zones indicated with a "C" in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations.

(a) through (d) [No Change]

(e) Off-street parking shall be provided in accordance with Table 142-05FG.

(f) [No Change]

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§141.0414 Interpretive Centers

Interpretive centers are *structures* or facilities designed to inform and educate the public about the surrounding environment. Interpretive centers may be permitted with a Conditional Use Permit decided in accordance with Process Four in the zones indicated with a “C” in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations.

- (a) through (b) [No Change]
- (c) Off-street parking shall be provided in accordance with Table 142-05FG.

§141.0415 Museums

Museums may be permitted with a Conditional Use Permit decided in accordance with Process Three in the zones indicated with a “C” in the Use Regulations Tables in Chapter 13, Article 1 (Base Zones) subject to the following regulations.

- (a) and (b) [No Change]
- (c) Off-street parking shall be provided in accordance with Table 142-05FG.

**Article 2: General Development Regulations
Division 5: Parking Regulations**

§142.0501 [No Change]

§142.0505 When Parking Regulations Apply

These regulations apply in all base zones and planned districts, with the exception of those areas specifically identified as being exempt from the regulations, whether or not permit or other approval is required.

Table 142-05A identifies the applicable regulations and the type of permit required by this division, if any, for the type of development shown.

**Table 142-05A
Parking Regulations Applicability**

Type of <i>Development Proposal</i>	Applicable Regulations	Required Permit Type/Decision Process
<i>Any single dwelling unit residential development</i>	Sections 142.0510 , 142.0520 and 142.0560	No permit required by this division
<i>Any multiple dwelling unit residential development</i>	Sections 142.0510, 142.0525 and 142.0560	No permit required by this division
<i>Any multiple dwelling unit residential development that includes affordable housing</i>	Sections 142.0510, 142.0525, 142.0560, and 142.0527	<u>No permit required by this division</u>

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Type of <i>Development Proposal</i>	Applicable Regulations	Required Permit Type/Decision Process
Any nonresidential <i>development</i>	Sections 142.0510, 142.0530, and 142.0560	No permit required by this division
<i>Multiple dwelling unit projects residential development</i> in Planned Urbanized Communities that are processing a Planned Development Permit.	Section 142.0525(c)	No permit required by this division
<i>Condominium conversion</i> through Tandem Parking for commercial uses [No Change]		

§142.0510 through §142.0521 [No Change]

§142.0525 Multiple Dwelling Unit Residential Uses — Required Parking Ratios

- (a) Minimum Required Parking Spaces. The required automobile parking spaces, motorcycle parking spaces, and bicycle parking spaces for *development of multiple dwelling units*, whether attached or detached, and related and *accessory uses* are shown in Table 142-05C. Other allowances and requirements, including the requirement for additional common area parking for some projects, are provided in Section 142.0525(b) through (d).

Table 142-05C
Minimum Required Parking Spaces for
Multiple Dwelling Units and Related Accessory Uses

Multiple Dwelling Unit Type and Related and Accessory Uses	Automobile Spaces Required Per Dwelling Unit (Unless Otherwise Indicated)			Motorcycle Spaces Required Per Dwelling Unit	Bicycle ⁽⁵⁾ Spaces Required Per Dwelling Unit
	Basic ⁽¹⁾	Transit Area ⁽²⁾ or ⁽³⁾ Very-Low-Income	Parking Impact ⁽⁴⁾		
Studio up to 400 square feet	1.25	1.0	1.5	0.05	0.3
1 bedroom or studio over 400 square feet	1.5	1.25	1.75	0.1	0.4
2 bedrooms	2.0	1.75	2.25	0.1	0.5
3-4 bedrooms	2.25	2.0	2.5	0.1	0.6
5+ bedrooms	2.25	2.0	(See footnote 6)	0.2	1.0
<u>Affordable Housing Units (see Section 142.0527)</u>	<u>N/A</u>	<u>N/A</u>	<u>0.25 beyond that required in Section 142.0527</u>	<u>(See footnote 3)</u>	<u>(See footnote 3)</u>
<u>Condominium conversion</u> <u>Condominium conversion</u> ⁽⁸⁾	1.0	0.75	1.25	N/A	N/A
1 bedroom or studio over 400 Square feet	1.25	1.0	1.5	N/A	N/A
2 bedrooms	1.5	1.25	1.75	N/A	N/A
3 + bedrooms					
Rooming house	1.0 per tenant	0.75 per tenant	1.0 per tenant	0.05 per tenant	0.30 per tenant
Boarder & Lodger Accommodations	1.0 per two boarders or lodgers	1.0 per two boarders or lodgers	1.0 per two boarders or lodgers, except 1.0 per boarder or lodger in beach impact area	<u>N/A</u>	<u>N/A</u>
Residential care facility					

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Multiple Dwelling Unit Type and Related and Accessory Uses	Automobile Spaces Required Per Dwelling Unit (Unless Otherwise Indicated)			Motorcycle Spaces Required Per Dwelling Unit	Bicycle ⁽⁵⁾ Spaces Required Per Dwelling Unit
	Basic ⁽¹⁾	Transit Area ⁽²⁾ or Very Low Income ⁽³⁾	Parking Impact ⁽⁴⁾		
through Accessory Uses [No Change]					

Footnotes for Table 142-05C

¹ through ² [No Change]

³ *Very Low Income.* The very low income parking ratio applies to dwelling units limited to occupancy by very low income households and development covered by an agreement with the San Diego Housing Commission pursuant to Chapter 14, Article 3, Division 7 (Affordable Housing Density Bonus Regulations). The required motorcycle and bicycle parking spaces are those required for dwelling unit type for studio up to 400 square feet through 5+ bedrooms.

⁴ through ⁸ [No Change]

(b) through (d) [No Change]

§142.0527 Affordable Housing Parking Regulations for Low Income and Very Low Income

The affordable housing parking regulations shall determine the minimum number of parking spaces required for affordable housing dwelling units in developments where all or a portion of the development is affordable.

(a) Definitions. For the purposes Section 142.0527 the following definitions apply:

(1) Affordable housing means regulated rental housing where the tenant pays no more than 35 percent of gross household income towards gross rent (including utilities) and where a specified number of units are affordable to low income and/or very low income households for a term of at least 30 years.

(2) Civic use means any of the following uses:

(A) Cultural Facilities

(B) Libraries

(C) Museums and art galleries

(D) Post offices

(E) Public parks

(F) Recreation centers

(G) Social service agencies

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- (3) Family housing means a *development* where 50 percent or more of the *dwelling units* contain two or more *bedrooms*.
- (4) Housing for senior citizens means a *development* in which all *dwelling units* meet the requirements of 141.0310(a).
- (5) Special needs housing means housing that is supportive of persons with needs relating to physical disabilities, mental health, or developmental disabilities in addition to economic needs
- (6) *SRO hotel* has the same meaning as in Section 113.0103.
- (7) Studio and 1 *bedroom* respectively mean a *dwelling unit* that is designed to include sleeping, cooking and living accommodations within one open living area up to 400 square feet and a *dwelling unit* designed with one *bedroom* with separate living area or a studio greater than 400 square feet; and is not within a *development* for family housing, *SRO hotel*, or housing for senior citizens.

(b) Parking Demand. The minimum required automobile parking spaces for affordable housing *development* shall be determined using the following indexes. See Land Development Manual Calculating Affordable Housing Parking Requirements for guidance on calculating the Walkability and Transit Indexes.

(1) Walkability Index

The Walkability Index shall be determined by assigning one point for each of the following criteria for a maximum Walkability Index of 4 points.

- (A) Retail, theater, or assembly and entertainment uses present within one-half mile of the *development premises*.
- (B) More than 120 *lots* developed with retail, theater, or assembly and entertainment uses within one-half mile of the *development premises*.
- (C) Office, civic, nonresidential day care, nursery school, kindergarten through high school, hospitals, or healthcare uses within one-half mile of the *development premises*.
- (D) More than 50 *lots* developed with office, civic, nonresidential day care, nursery school, or kindergarten through high school, hospitals, or healthcare uses within one-half mile of the *development premises*.

(2) Transit Index

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The Transit Index shall be determined by the number of peak hour trips within a defined distance from the *development*. For bus transit the distance is one-quarter mile of the *development* for each bus transit stop. For fixed rail and bus rapid transit the distance is one-half mile of the *development premises* for each fixed stop. Inbound /outbound stops for the same route count as one stop.

- (A) 0-15 peak hour trips/hour (1 point)
- (B) 16-30 peak hour trips/hour (2 points)
- (C) 31-45 peak hour trips/hour (3 points)
- (D) 46 or greater peak hour trips/hour (4 points)

(3) The Walkability/Transit Index

- (A) The Walkability/Transit Index is the sum of the Walkability Index and the Transit Index divided by two.
- (B) The Walkability/Transit Index shall determine the parking demand as follows:
 - (i) 0.0 – 1.99 High parking demand
 - (ii) 2.0 – 3.99 Medium parking demand
 - (iii) 4.0 Low parking demand

(c) Affordable Housing Parking Ratios. Table 142-05D provides the parking ratios required for affordable housing *development*.

Legend for Table 142-05D

<u>Symbol in Table 142-05D</u>	<u>Description of Symbol</u>
<u>H</u>	<u>High parking demand</u>
<u>M</u>	<u>Medium parking demand</u>
<u>L</u>	<u>Low parking demand</u>
<u>-</u>	<u>Not applicable to housing type.</u>

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Table 142-05D
Affordable Housing Parking Ratios

<u>Bedrooms</u>	<u>Family Housing</u>			<u>Housing for Senior Citizens</u>			<u>Studio & 1 Bedroom</u>			<u>Special Needs Housing</u>			<u>SRO Hotels</u>		
	<u>H</u>	<u>M</u>	<u>L</u>	<u>H</u>	<u>M</u>	<u>L</u>	<u>H</u>	<u>M</u>	<u>L</u>	<u>H</u>	<u>M</u>	<u>L</u>	<u>H</u>	<u>M</u>	<u>L</u>
<u>Studio</u>	0.5	0.2	0.1	0.5	0.3	0.1	0.5	0.2	0.1	0.5	0.2	0.1	0.5	0.3	0.1
<u>1 BR</u>	1.0	0.6	0.33	0.75	0.6	0.15	0.75	0.5	0.1	0.75	0.5	0.1	-	-	-
<u>2BR</u>	1.3	1.1	0.5	1.0	0.85	0.2	-	-	-	-	-	-	-	-	-
<u>3 BR</u>	1.75	1.4	0.75	-	-	-	-	-	-	-	-	-	-	-	-
<u>Accessory</u>															
<u>Visitor⁽¹⁾</u>	0.15			0.15			0.15			0.15			0.15		
<u>Staff⁽¹⁾</u>	0.05			0.05			0.05			0.1			0.05		
<u>Assigned spaces⁽²⁾</u>	0.1			0.1			0.1			0.1			0.1		

Footnotes for Table 142-05D

⁽¹⁾ Visitor and staff parking spaces are calculated by multiplying the ratio by the total number of affordable housing dwelling units.

⁽²⁾ For assigned parking, the number of additional parking spaces is calculated by multiplying the total parking spaces required for the housing units, visitor, and staff parking by 0.1. For unassigned parking, no additional parking spaces are required.

(d) Supplemental Regulations.

- (1) All required parking shall be provided in non-tandem parking spaces.
- (2) Affordable housing development shall not be subject to the parking regulations of the Transit Overlay Zone and shall not be entitled to parking reductions provided for in Section 142.0550 (Parking Assessment District Calculation Exception).
- (3) The required number of disabled parking spaces shall be the number of spaces required in accordance with the basic parking ratio for multiple dwelling units in Table 142-05C.
- (4) Affordable housing development with parking spaces in excess of the number of parking spaces required by this section (Affordable Housing Parking Regulations) may reduce the required number of parking spaces in accordance with this section through a substantial conformance review without amending -any prior discretionary permit.

§142.0530 Nonresidential Uses — Parking Ratios

- (a) Retail Sales, Commercial Services, and Mixed-Use Development. Table 142-05DE establishes the ratio of required parking spaces to building floor area in the commercial zones, industrial zones, and planned districts shown, for retail sales uses and for those commercial service uses that are not covered by Table 142-05EF or 142-05FG. Table 142-05DE also establishes the required parking ratios for mixed-use developments in a single structure that include

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an allowed use from at least two of the following use categories: (1) retail sales, (2) commercial services, and (3) offices.

Table 142-05DE
Parking Ratios for Retail Sales, Commercial Services, and Mixed-Use Development

Zone	Parking Spaces Required per 1,000 Square Feet of Floor Area Unless Otherwise Noted (Floor Area Includes Gross Floor Area plus below Grade Floor Area and Excludes Floor Area Devoted to Parking)			
	Required Automobile Parking Spaces			Required Bicycle Parking Spaces ⁽²⁾
	Minimum Required Outside a Transit Area	Minimum Required Within a Transit Area ⁽¹⁾	Maximum Permitted	Minimum Required
Commercial Zones through Planned Districts [No Change]				

Footnotes For Table 142-05DE

¹ through ⁵ [No change]

- (b) Eating and Drinking Establishments. Table 142-05EF establishes the required ratio of parking spaces to building floor area in the commercial zones, industrial zones, and planned districts shown, for eating and drinking establishments that are the primary use on a premises.

Table 142-05EF
Parking Ratios for Eating and Drinking Establishments

Zone	Parking Spaces Required per 1,000 Square Feet of Eating and Drinking Establishment ⁽³⁾ Floor Area Unless Otherwise Noted (Floor Area Includes Gross Floor Area plus below Grade Floor Area and Excludes Floor Area Devoted to Parking)			
	Required Automobile Parking Spaces			Required Bicycle Parking Spaces ⁽²⁾
	Minimum Required Outside a Transit Area	Minimum Required Within a Transit Area ⁽¹⁾	Maximum Permitted	Minimum Required
Commercial Zones through Planned Districts [No Change]				

Footnotes For Table 142-05EF

¹ through ⁴ [No Change]

⁵ Alley Access. For properties with alley access, one parking space per 10 linear feet of alley frontage may be provided instead of the parking ratio shown in Table 142-05EF. Within the beach impact area of the Parking Impact Overlay Zone, application of this policy shall not result in a reduction of required on-site parking.

- (c) Nonresidential Uses. Table 142-05FG establishes the required ratio of parking spaces to building floor area for the nonresidential uses shown that are not covered by the parking requirements in Section 142.0530(a) and (b).

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**Table 142-05FG
Parking Ratios for Specified Non-Residential Uses**

Use	Parking Spaces Required per 1,000 Square Feet of Floor Area Unless Otherwise Noted (Floor Area Includes Gross Floor Area plus below Grade Floor Area, and Excludes Floor Area Devoted to Parking)				
	Required Automobile Parking Spaces				Required Bicycle Parking Spaces ⁽³⁾
	Minimum Required Outside a Transit Area	Minimum Required Within a Transit Area ⁽¹⁾	Maximum Permitted	Carpool Minimum ⁽²⁾	Minimum
Institutional					
Separately regulated uses					
Botanical Gardens and Arboretums through Radio & Television Broadcasting [No Change]					
Retail Sales: See Table 142-05DE					
Commercial Services					
Eating & Drinking Establishments	See Table 142-05EF				
Public assembly & entertainment through All other public assembly and entertainment [No Change]					
Visitor accommodations [No Change]					
Separately Regulated Uses					
Child Care Facilities through Private clubs, lodges, fraternal organizations (except fraternities and sororities) [No Change]					
Single room occupancy hotels (See Section 142.0527 for SRO Hotels that are designated affordable housing)	1 per room <i>Very-low-income</i> ⁽⁵⁾ : 0.5-per-room	0.5 per room <i>Very-low-income</i> ⁽⁵⁾ : 0.25-per-room	N/A	N/A	0.2 per room
Veterinary clinics & hospitals [No Change]					
Offices ⁽⁶²⁾ [No Change]					
Vehicle & Vehicular Equipment Sales & Service [No Change]					
Wholesale, Distribution, and Storage ⁽⁶²⁾ [No Change]					
Industrial [No Change]					

Footnotes For Table 142-05FG

¹ through ³ [No Change]

⁴ *Alley Access.* For properties with *alley* access, one parking space per 10 linear feet of *alley* frontage may be provided instead of the parking ratio shown in Table 142-05FG. Within the beach impact area of the Parking Impact Overlay Zone, application of this policy shall not result in a reduction of required on-site parking.

⁵ *Very-Low-Income.* The *very-low-income* parking ratio applies to dwelling units limited to occupancy by *very-low-income* households that are covered by an agreement with the San Diego Housing Commission pursuant to Chapter 14, Article 3, Division 7 (Affordable Housing Density Bonus Regulations).

⁶² Accessory Retail Sales, Commercial Services, and Office Uses. On-site accessory retail sales, commercial services, and office uses that are not open to the public are subject to the same parking ratio as the primary use.

⁷⁶ In the beach impact area, one parking space per guest room or 5.0, whichever is greater.

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(d) and (e) [No Change]

(e) Bicycle Facilities [No Change]

(f) Unspecified Uses. For uses not addressed by Tables 142-05DE, 142-05EF, and 142-05FG the required *off-street parking spaces* are the same as that required for similar uses. The City Manager shall determine if uses are similar.

(g) and (h) [No Change]

§142.0535 [No Change]

§142.0540 Exceptions to Parking Regulations for Nonresidential Uses

(a) Commercial Uses on Small Lots. Outside the beach impact area of the Parking Impact Overlay Zone, for *lots* that are 7,000 square feet or less, that existed before January 1, 2000, including abutting *lots* under common ownership, the parking requirements set forth in Table 142-05GH may be applied to all commercial uses at the option of the *applicant* as an alternative to the requirements set forth in Section 142.0530. The type of access listed in Table 142-05GH determines the minimum number of required *off-street parking spaces*.

**Table 142-05GH
Alternative Parking Requirement for
Commercial Uses on Small Lots**

Type of Access	Minimum Number of Parking Spaces
With <i>Alley Access</i> ⁽¹⁾	1 space per 10 feet of <i>alley</i> frontage, minus one space
Without <i>Alley Access</i>	none required

Footnote to Table 142-05GH

¹ The City Engineer will determine whether a *lot* has adequate *alley* access according to accepted engineering practices.

(b) Exceeding Maximum Permitted Parking. Development proposals may exceed the maximum permitted automobile parking requirement shown in Tables 142-05DE, 142-05EF, and 142-05FG with the approval of a Neighborhood Development Permit, subject to the following:

(1) through (2) [No Change]

(c) [No Change]

§142.0545 Shared Parking Requirements

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- (a) [No Change]
- (b) [No Change]
 - (1) [No Change]
 - (2) Table 142-05HI contains the peak parking demand for selected uses, expressed as a ratio of parking spaces to *floor* area.
 - (3) Table 142-05IJ contains the percentage of peak parking demand that selected uses generate for each hour of the day (hourly accumulation curve), in some cases separated into weekdays and Saturdays. The period during which a use is expected to generate its peak parking demand is indicated as 100 percent, and the period during which no parking demand is expected is indicated with “-”.
 - (4) through (6) [No Change]
 - (7) Uses for which standards are not provided in Tables 142-05HI and 142-05IJ may nevertheless provide *shared parking* with the approval of a Neighborhood Development Permit, provided that the *applicant* shows evidence that the standards used for the proposed *development* result in an accurate representation of the peak parking demand.
- (c) Single Use Parking Ratios. *Shared parking* is subject to the parking ratios in Table 142-05HI.

**Table 142-05HI
Parking Ratios for Shared Parking**

Use	Peak Parking Demand (Ratio of spaces per 1,000 square feet of floor area unless otherwise noted. Floor area includes gross floor area plus below grade <i>floor</i> area and excludes floor area devoted to parking)	Transit Area ⁽¹⁾
Office (except medical office) Through <i>Multiple dwelling units</i> [No Change]		

Footnote for Table 142-05HI

¹ [No Change]

- (d) Hourly Accumulation Rates. Table 142-05IJ contains, for each hour of the day shown in the left column, the percentage of peak demand for each of the uses, separated in some cases into weekdays and Saturdays.

**Table 142-05IJ
Representative Hourly Accumulation by Percentage of Peak Hour
[No Change to Table]**

§142.0550 Parking Assessment District Calculation Exception

- (a) Exemption From Minimum Required Parking Spaces. Property within a parking assessment district formed pursuant to any parking district ordinance adopted by the City Council may reduce the number of parking spaces provided from the minimum automobile space requirements in Tables 142-05C, 142-05DE, 142-05EF, and 142-05FG in accordance with the application of the following formula:

$$(\text{Assessment against the subject property}) / (\text{Total assessment against all property in the parking district}) \times (\text{parking spaces provided in the district facility}) \times 1.25 = \text{parking spaces reduced.}$$
 The remainder of the *off-street parking spaces* required by Tables 142-05C, 142-05DE, 142-05EF, and 142-05FG shall be provided on the *premises* or as otherwise provided in the applicable zone.

- (b) [No Change]

§142.0555 through §142.0556 [No Change]

§142.0560 Development and Design Regulations for Parking Facilities

- (a) [No Change]
- (b) Minimum Dimensions for *Off-street Parking Spaces*. The minimum dimensions for single and tandem spaces for specific types of parking spaces are shown in Table 142-05JK, except as provided in Section 142.0560(e) for certain pre-existing parking facilities. Compact spaces are not permitted.

**Table 142-05JK
Minimum Off-Street Parking Space Dimensions
[No Change to Table]**

- (c) Minimum Dimensions for Automobile Parking Aisles. The minimum dimensions for automobile parking aisles at permitted angles for one-way and two-way circulation are shown in Table 142-05KL and illustrated in Diagram 142-05B, except as provided in Section 142.0560(e) for certain pre-existing parking facilities.

**Table 142-05KL
Aisle Dimensions**

Angle Between Parking Space and Aisle	Minimum Required Aisle Width (feet)	
	One Way	Two Way

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Angle Between Parking Space and Aisle	Minimum Required Aisle Width (feet)	
	One Way	Two Way
90° (perpendicular) Through 0° (parallel) [No Change]		

Footnote for Table 142-05L

¹ For narrow lots 50 feet or less in width, the minimum drive aisle may be reduced to 22 feet.

Diagram 142-05B [No Change]

- (1) For other angles between 45 and 90 degrees, use the aisle width for the next larger angle in Table 142-05KL.
- (2) [No Change]
- (d) through (i) [No Change]
- (j) Driveway and Access Regulations
 - (1) Driveway width shall be determined based on the size of the lot, type of use proposed, and location inside or outside of the Parking Impact Overlay Zone. Refer to Tables 142-05LM and 142-05MN for the applicable minimum and maximum driveway widths.

**Table 142-05LM
Driveway Width (Lots greater than 50 feet in width)
[No Change to Table]**

**Table 142-05MN
Driveway Width (Lots 50 feet or less in width)
[No Change to Table]**

- (2) through (10) [No Change]
- (k) [No Change]

**Article 5: Building Regulations
Division 40: Voluntary Accessibility Program**

§145.4001 through §145.4002 [No Change]

§145.4003 Voluntary Accessibility Program Regulations and Development Incentives

- (a) through (c) [No Change]
- (d) [No Change]

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- (1) [No Change]
 - (A) and (B) [No Change]
 - (C) A reduction of the driveway width consistent with the minimum dimensions specified in Table 142-05MN,
 - (D) through (E) [No Change]
- (2) through (5) [No Change]
- (e) [No Change]

§145.4004 through §145.4005 [No Change]

Chapter 15
Planned Districts
Article 1: Planned Districts
Division 1: General Provisions for Planned Districts

§151.0101 through §151.0102 [No Change]

§151.0103 Applicable Regulations

- (a) [No change]
- (b) [No Change]
 - (1) through (5) [No Change]
 - (6) Child care facilities regulations contained in Land Development Code Section 141.0606; and
 - (7) Affordable Housing Parking Regulations in Land Development Code Section 142.0527 except where the Planned District Ordinance provides a lower parking ratio than would be provided in Section 142.0527.

Article 7: Gaslamp Planned District
Division 4: General and Supplemental Regulations

§157.0401 Off-Street Parking Requirements

- (a) through (b) [No Change]

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- (c) All required parking shall meet the parking regulations set forth in Section 142.0560, including Table 142-05JK and Table 142-05KL, of the Land Development Code.

(d) through (f) [No Change]

§157.0402 through §157.0408 [No Change]



San Diego Municipal Code
Land Development Code

**Calculating
Affordable Housing
Parking Requirements**



This information or this document (or portions thereof) will be made available in alternative format upon request.

Affordable Housing Parking

The following amendments have been incorporated into the posting of this plan:

Amendment	Date Effective Administratively	Date Adopted by City Council	Resolution Number
Initial Adoption	---	__-__-2012	R-_____

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INTRODUCTION

This manual discusses the requirements, assumptions, data sources, and methods used to determine the Walkability Index and the Transit Index associated with the development of affordable housing dwelling units. These indices are revealed by evaluating “neighborhood-level variables” such as proximity to commercial, office, and civic; and proximity to transit and transit levels of service. The details of the variables and how proximity is determined is detailed in this manual.

The processes outlined here were adapted from the *San Diego Affordable Housing Parking Study* (December 2011) which determined relationships between walkability, transit and parking demand for existing affordable housing developments. The purpose of this manual is to assist in determining the indices for new affordable housing dwelling units within the City of San Diego. A few variables and operations used in the study have been refined to provide more accurate calculations.

Many of the processes for deriving the Walkability Index and Transit Index examine spatial relationships among the input data sets. These spatial analysis processes are typically performed using Geographic Information Systems (GIS) software. The viewing and processing of geographic information requires some level of expertise to operate the software and execute the various overlay operations described in this manual. The intent here is to describe the processes in general terms, however, some of the GIS operation terms may be specific to GIS or specific to Esri ArcGIS software which may change over time or may vary with other software applications. The testing and execution of these processes were done using Esri ArcGIS version 10.0 (Build 3600).

SECTION 1: INPUT DATA SOURCES

Neighborhood-level variables are derived from the most current available GIS data layers including Assessor Parcels, Existing Land Use, and Transit Routes and Stops. These data inputs are GIS-based data layers that can be downloaded from the [San Diego Regional GIS Data Warehouse](#). Table 1 outlines the pertinent information from each layer used to determine the indices scores, but may not be all inclusive.

It is highly recommended that users thoroughly read the metadata for each input layer prior to executing any of the processes outlined in this manual. Certain assumptions and limitations may exist for each layer and it is the user’s responsibility to understand and use properly the data layers listed below.

TABLE 1

Intent/ Purpose	Input Layer Name (General)	Download (Esri shapefile)	Fields (Field1, Field2, etc.)	Source	Metadata
PS	Parcels	Parcels	APN	SanGIS	Parcels Metadata
TA	Transit Routes	Transit Routes	MODE, PKFREQ, DESC	SANDAG	Transit Route Metadata
TA	Transit Stops	Transit Stops	MODE	SANDAG	Transit Stops Metadata
LU	Current Land Use	Current Land Use	LU, DESC	SANDAG	Current Land Use Metadata

PS = Project Site, TA = Transit Availability, LU = Land Use

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SECTION 2: SCORE DETERMINATION AND DATA PROCESSING

2.1 DERIVING THE WALKABILITY INDEX

2.1-1 Summary

The Walkability Index is determined through a proximity analysis that identifies the number of activity-generating land uses (retail, assembly and entertainment, office, civic, and educational uses) that are within a ½ mile radius of a development that includes affordable housing dwelling units as defined in Section 142.0527. These activity-generating land uses are identified in the Current Land Use data layer and categorized into two types; “Retail” and “Institutional/ Office/ Civic”. The specific retail activity-generating uses are identified in Table 2 and the office/civic/educational uses are identified in Table 3. A separate search and tally is examined for the two types and the results are represented in a 4-point Walkability Index using the following criteria. One point is assigned for each of the following criteria that apply to the project for a maximum possible Walkability Index of four points.

Retail:

- Project site has between 1 and 119¹ Retail parcels within ½ mile.
- Project site has more than 120¹ Retail parcels within ½ mile.

Office/Civic:

- Project site has between 1 and 49² Institutional/Office/Civic parcels within ½ mile.
- Project has more than 50² Institutional/Office/Civic parcels within ½ mile.

**TABLE 2
RETAIL USES**

LU Code	Description	Category
5002	Regional Shopping Center	Retail
5003	Community Shopping Center	Retail
5004	Neighborhood Shopping Center	Retail
5005	Specialty Commercial	Retail
5007	Arterial Commercial	Retail
5009	Other Retail Trade & Strip Commercial	Retail

¹ 120 was the mean number of Retail parcels identified in the Affordable Housing Parking Study which examined 290 existing affordable housing project sites.

² 50 was the mean number of Institutional/Office/Civic parcels identified in the Affordable Housing Parking Study which examined 290 existing affordable housing project sites

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**TABLE 3
OFFICE/CIVIC/EDUCATIONAL USES**

LU Code	Description	Category
6001	Office (High-Rise)	Office
6002	Office (Low-Rise)	Office
6003	Government Office/Civic Center	Civic
6103	Library	Civic
6104	Post Office	Civic
6109	Other Public Services	Civic
6501	Major Hospital	Office
6502	Hospital	Office
6509	Other Health Care	Office
6804	Senior High School	School
6805	Junior High School or Middle School	School
6806	Elementary School	School
6807	School District Office	Office
6809	Other School	School
7210	Other Recreation - High	Civic
7601	Park - Active	Civic

2.1-2 Detailed Methods

The proximity analysis used to determine the Walkability Index should follow a specific process for a consistent outcome each time. However, it is important to note that the input data layers identified above are not static layers and are expected to be updated by the source agencies on a regular basis. Therefore, variations in the indices score may result over time. Refer to the metadata for update frequencies.

The following is a process flow for the proximity analysis used to determine the Walkability Index. As stated previously, these procedures rely on Geographic Information Systems (GIS) software and refer specifically to GIS operations.

Input Layers Required:

- Parcels
- Current Land Use

Preprocessing:

The inputs layers are relatively large datasets which can dramatically increase processing times. It is recommended that the input layers be clipped to an area approximately 1 mile around the project site. This will increase the performance of the steps below and decrease potential system failures.

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Geo-processing:

Note: Specific GIS operations are underlined

1. Reduce the visible fields (columns) on the Parcel layer to display only the PARCELID field. It is not necessary to permanently delete, simply turn off the other fields.
2. Using the Parcel layer, select the desired project parcel.
3. Create a new point layer using the centroid of the selected parcel. Select the “inside” option when running the Feature to point tool.
4. Create a ½ mile (2,640 feet) project buffer around the parcel centroid.
5. Select by location all Parcels and Current Land Use areas that intersect the ½ mile project buffer.
6. Using the Clip function, extract the Parcels and Current Land Use from step 5 using the project buffer as the clip feature. These will require 2 separate processes.
7. Convert to points the clipped parcel output layer. Select the “inside” option when running the Feature to point tool.
8. Dissolve the output parcel point layer from step 7 using the PARCELID column as the “Dissolve” field. This will generate a unique point to represent each single parcel area and eliminate those overlapping parcel features that are “stacked” to identify condo ownership.
9. Intersect the points from step 7 with the clipped land use layer. The result should be a point layer of parcel centroids with the land use codes from the Current Land Use.
10. Add a Field to the output from step 8 with the name of “LU_Type”. Field type = Text and Length = 50
11. Select by Attributes all records that contain an LU Code listed in Table 2. The LU Code may have the table field “lu”.
12. Calculate LU_Type to “Retail”
13. Select by Attributes all records that contain an LU Code listed in Table 3.
14. Calculate LU_Type to “Institutional/Office/Civic”
15. Clear all Selected features.

Note: The remaining processes do not require GIS software as they do not involve any overlay/proximity evaluations. If desired, other standard spreadsheet or statistical programs can be utilized. However, the remaining steps explain how to process with GIS software.

16. Generate a summary table to determine the number of parcels within the project buffer based on each land use type. Deploy the Summary Statistics tool. Input features should be the output from steps 8-14. The statistic field is PARCELID with the statistic type as COUNT. The case field in this operation is LU_Type.

Note: The last calculations are to incorporate the 4-point land use activity index based on the results from step 14.

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17. Add a field to the output from step 14 with the name of "LU_Index". Field Type = Short Integer.
18. Calculate LU_Index equal to 1 for all records. A score of 1 is the minimum based on the 4-point land use activity index described in the Summary (Section 2.1-1).
19. Calculate LU_Index separately for each LU_Type based on the 4-point land use activity index formula described in the Summary (Section 2.1-1).

2.2 DERIVING THE TRANSIT INDEX

2.2-1 Summary

The evaluation of peak hour transit trips in the vicinity of project sites makes use of a regional transportation coverage network, known as "RTCov". This file is authored by the San Diego Association of Governments (SANDAG) and contains routes for bus and fixed rail as well as the stop locations associated with these routes. The Transit Index examines the frequency of transit stop occurrences around a project site. Due to the nature of the source data, it is necessary to associate the transit routes - which hold the frequency parameter - with the stops which are used to identify stops near project sites. It is necessary to associate routes and frequencies to stops particularly in the case of fixed rail lines since a transit route may pass through the vicinity of a project without actually stopping.

For each project site, the number of peak hour trips is summarized by each route that has at least 1 stop in the project vicinity. In other words, if multiple stops on one route are identified to be within the vicinity, the frequency does not multiply for each stop and only the highest frequency (if the route frequency varies) is evaluated for that project.

As mentioned above the RTCov layers contain both fixed rail and bus routes and their associated stops. The proximity parameters for the Transit Index are ½ mile for fixed rail transit and ¼ mile for bus transit. With that said, the below detailed processes are similar in nature but should be processed separately. This is especially necessary due to the proximity distances for fixed rail/bus rapid transit and bus - ½ mile and ¼ mile respectively.

The results from this routine will be used to determine the Transit Index based on the total number of peak hour fixed rail/bus rapid transit or bus transit trip/hour available to a project site. Below is the 4-point scoring method for the Transit Index:

- 1 point - Project site has between 0 and 15 peak hour rail/bus rapid transit or bus transit trips/hour.
- 2 points - Project site has between 16 and 30 peak hour rail/bus rapid transit or bus transit trips/hour.

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- 3 points - Project site has between 31 and 45 peak hour rail/bus rapid transit or bus transit trips/hour.
- 4 points - Project site has 46 or greater peak hour rail/bus rapid transit or bus transit trips/hour.

2.2-2 Detailed Methods

The proximity analysis used to determine the transit index scores should follow a specific process for a consistent outcome each time. However, it is important to note that the input data layers identified above are not static layers and are expected to be updated by the source agencies on a regular basis. Therefore, variations in the indices score may result over time. Refer to the metadata for update frequencies. Below is a process flow for the proximity analysis used to determine the Transit Index. As stated previously, these procedures rely on Geographic Information Systems (GIS) software and refer specifically to GIS operations.

Input Layers Required:

- Parcels
- Transit Routes
- Transit Stops

Preprocessing:

The inputs layers should not require preprocessing.

Geo-processing:

Note - specific GIS operations are underlined

1. Using the Parcel layer, select the desired project parcel.
2. Create a new point layer using the centroid of the selected parcel. Select the “inside” option when running the Feature to point tool.
3. Create 2 project buffers of ¼ mile (1,320 feet) and ½ mile (2,640 feet) around the parcel centroid. Note, the ½ mile buffer should cover the ¼ mile. Do not create a multi-ring buffer which in some cases can exclude the inner ¼ mile for the ½ mile area.
4. Separate both the routes and stops into “light rail” and “bus” layers. This can be achieved by using the MODE field to select pertinent features followed by a copy or export to new layers. The following criteria should be used to differentiate Light Rail from Bus.
 - i. Light Rail – MODE = 4 or 5
 - ii. Bus = MODE = 8 or 9 or 10

Note: Process steps 5-7 below assign transit routes from step 4 to transit stops in order to evaluate the unique peak frequency from the routes based on stop locations for each project site.

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5. Dissolve the route layers for light rail and bus separately based on the transit route number (“ROUTE”) field and by peak frequency (“PKFREQ”) field. Do not select an option for Statistics, leave this blank.
6. Buffer the dissolved output layers from step 5 by 25 feet. Select the option to make the ends flat as opposed to round.
7. Intersect the bus stops points with the buffered bus routes from step 6 and Intersect the light rail stops points with the buffered light rail routes from step 6.
8. Intersect the resultant point layers from step 7 with the pertinent project buffer areas - 1/4 mile for bus stops and 1/2 mile for light rail stops.
Note: The remaining processes apply to both the light rail and bus route information and should be applied to both as separate processes.
9. Using the results from step 8, generate a summary table for each route maintaining the max peak frequency. Using the Summary Statistics function, input the peak frequency field (“PKFREQ”) as the statistics field with “MIN” as the statistics type and choose the route number (“ROUTE”) for the case field. “MIN” is used for the highest frequency due to lower numbers representing the number of minutes between each stop.
Note: The remaining processes do not require GIS software as they do not involve any overlay/proximity evaluations. If desired, other standard spreadsheet or statistical programs can be utilized. However, the remaining steps explain how to process with GIS software.
10. Add a Field to each of the outputs from step 9 with the name of “Trips_per_hr” Field type = Long Integer.
11. Calculate “Trips_per_hr” by dividing 60 by the max peak frequency for each route/stop layer generated in step 8. The outcomes here represent the trips per peak hour for each route in the project vicinity. (e.g. $60 / [\text{MIN_PKFREQ}]$)
12. Determine the sum of the trips per hour for each route by adding them together.
13. From step 12, add the sums for light rail and bus together and this will be your total score to be used to determine the transit availability index score.

2.3 DERIVING THE WALKABILITY/TRANSIT INDEX

The Walkability/Transit Index score is determined by adding the Walkability Index and the Transit Index and dividing the sum by two. The Walkability/Transit Index score will be a number between 0 and 4. Identify which of the following score ranges accommodate the project’s Walkability/Transit Index score to determine the parking demand.

- 0.0 - 1.99 High parking demand
- 2.0 - 3.99 Medium parking demand
- 4.0 Low parking demand

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Use the Affordable Housing Parking Worksheet (Appendix B) to calculate the required number of parking spaces.

1. First identify the type of affordable housing project (family, SRO hotel, housing for senior citizens, studio & 1 bedroom, or special needs).
2. Provide the information requested in row 1 for the total number of units and the number of units according to size (studio/bedrooms).
3. Calculate the number of parking spaces using the ratios for high, medium, or low parking demand (row 2) as determined by the Walkability/Transit Index.
4. Calculate the number of spaces required for staff parking, visitor parking, and assigned/non-assigned parking spaces.
5. Combine the total parking spaces from step 3 and step 4 for the required number of parking spaces.

2.4 NOTES FOR GIS USERS

Many of the processes for deriving the Walkability index and Transit Index examine spatial relationships among the input data sets. These spatial analysis processes are typically performed using Geographic Information Systems (GIS) software. The viewing and processing of geographic information requires some level of expertise to operate the software and execute the various overlay operations described in this manual. The intent here is to describe the processes in general terms, however, some of the GIS operation terms may be specific to GIS or specific to Esri ArcGIS software which may change over time or may vary with other software applications.

Although GIS is a tool with robust functionality, the results it yields are wholly dependent on the input data. In the case of the variables discussed here, uniform GIS data (data spanning the entire city of San Diego) on current land uses and transit services is limited to the best available information available to perform these site evaluations. The outputs of the analysis are thus constrained by how and when these input data layers were developed and how their attributes were coded. For example, the "peak frequency" of bus trip recorded is a representation of how SANDAG chose to record peak frequencies of a particular bus line when they developed the "RTCov" dataset. It is therefore advised to always refer to the metadata to determine if the variables and data values are consistent with the processes described above.

The testing and execution of these processes was done using Esri ArcGIS version 10.0 (Build 3600). This software and specific version is not a requirement for executing the processes described above.

APPENDICES

A. REFERENCES

[San Diego Affordable Housing Parking Study](#)

[ArcGIS 10 Resource Center and Help](#)

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B. AFFORDABLE HOUSING PARKING WORKSHEET

Project Description & Criteria		A. Total Units	B. Studio H/M/L	C. 1 BR H/M/L	D. 2 BR H/M/L	E. 3 BR H/M/L	F. Subtotal (Σ B3 - E3)	G. Visitor Parking (G2 x A1)	H. Staff Parking (H2xA1)	I. Total without Assigned Parking (Σ F3 -H3)	J. Total with Assigned Parking (I3 x J2 + I3)
Family Housing	1.Units										
	2.Rate		0.5/0.2/0.1	1.0/0.6/0.33	1.3/1.1/0.5	1.75/1.4/0.75		0.15	0.05		0.1
	3.Spaces										
SRO Hotel	1.Units										
	2.Rate		0.5/0.3/0.1	N/A	N/A	N/A		0.15	0.05		0.1
	3.Spaces										
Housing for Seniors	1.Units										
	2.Rate		0.5/0.3/0.1	0.75/0.6/0.15	1.0/0.85/0.2	N/A		0.15	0.05		0.1
	3.Spaces										
Studio & 1 Bdrm.	1.Units										
	2.Rate		0.5/0.2/0.1	0.75/0.5/0.1	N/A	N/A		0.15	0.05		0.1
	3.Spaces										
Special Needs	1.Units										
	2.Rate		0.5/0.2/0.1	0.75/0.5/0.1	N/A	N/A		0.15	0.10		0.1
	3.Spaces										

H- High parking Demand M - Medium parking demand L - Low parking demand

Medium Parking Demand

Housing for Seniors

Renaissance Seniors – North Park

Project Description & Criteria		A. Total Units	B. Studio H/M/L	C. 1 BR H/M/L	D. 2 BR H/M/L	E. 3 BR H/M/L	F. Subtotal (Σ B3 - E3)	G. Visitor Parking (G2 x A1)	H. Staff Parking (H2x A1)	I. Total without Assigned Parking (Σ F3 - H3)	J. Total with Assigned Parking (I3 x J2 + I3)
Family Housing	1.Units	96	-	87	9	-					
	2.Rate		0.5/0.3/0.1	.75/0.6/0.15	1.0/0.85/0.5	N/A		0.15	0.05		0.1
	3.Spaces		-	52.2	9.9	-	62.1	14.4	4.8	81 (81.3)	89 (89.43)

H- High parking Demand

M - Medium parking demand

L - Low parking demand

Project Data

Year Built	2006	Parking Occupancy	50% (52spaces)
Required Parking Spaces	103	Excess Parking Spaces	51

Comparison to Draft Regulations

Unassigned Parking

Existing Parking Spaces	103
Required by Draft Ordinance	79
Parking Space Reduction	24
Spaces in Excess of Occupancy	27

Assigned Parking

Existing Parking Spaces	103
Required by Draft Ordinance	87
Parking Space Reduction	16
Spaces in Excess of Occupancy	35

High Parking Demand
Large Housing
Windwood Village Apartments – Pacific Highlands Ranch

Project Description & Criteria		A. Total Units	B. Studio H/M/L	C. 1 BR H/M/L	D. 2 BR H/M/L	E. 3 BR H/M/L	F. Subtotal (Σ B3 - E3)	G. Visitor Parking (G2 x A1)	H. Staff Parking (H2x A1)	I. Total without Assigned Parking (Σ F3 -H3)	J. Total with Assigned Parking (I3 x J2 + I3)
Family Housing	1.Units	92	-	12	48	32					
	2.Rate		0.5/0.2/0.1	1.0/0.6/0.33	1.3/1.1/0.5	1.75/1.4/0.75		0.15	0.05		0.1
	3.Spaces		-	12	62.4	56	130.4	13.8	4.6	149 (148.8)	164 (163.68)

H- High parking Demand M - Medium parking demand L - Low parking demand

Project Data

Year Built	2003	Parking Occupancy	74% (144 spaces)
Required Parking Spaces	195	Excess Parking Spaces	51

Comparison to Draft Regulations

Unassigned Parking

Existing Parking Spaces	195
Required by Draft Ordinance	149
Parking Space Reduction	46
Spaces in Excess of Occupancy	5

Assigned Parking

Existing Parking Spaces	195
Required by Draft Ordinance	164
Parking Space Reduction	31
Spaces in Excess of Occupancy	20

