

January 15, 2007

Mr. Steve Lawton  
Community Development Director  
City of Hercules  
111 Civic Drive  
Hercules, California 94547

Re: Task One Summary Report – DRAFT

Dear Mr. Lawton,

In September 2006, the City of Hercules retained **Carl Walker, Inc. (Carl Walker)** to provide a parking management study for Central Hercules. This parking study was divided into six specific tasks, including a review of existing and future parking conditions, development of parking management strategies and parking standards, development of a parking demand management ordinance, and the organization of a Central Hercules parking district. Background parking system data was provided by the City of Hercules. Additional input was solicited from designated stakeholders during three study meetings that included city staff, project developers, and area transit administrators/planners.

This report represents the first deliverable for this project. This summary report addresses the scope items noted in Task 1 of the parking study, which included:

- Reviewing any pertinent studies/reports concerning parking or traffic in the study area.
- Reviewing and evaluating development plans and other parking demand variables, including the identification of potential new sources of parking demand and supply that may impact parking operations/management.
- Confirming the inventory of existing parking spaces in the study area.
- Conducting parking occupancy counts on one typical peak weekday. Vehicle, bicycle, mass transit and pedestrian circulation patterns were reviewed during the parking occupancy counts.
- Determining current and future parking surpluses and deficits by location/zone.
- Conducting meetings/interviews with primary stakeholders to gain their perspectives concerning parking in the study area. (Completed on November 16, 2006).

The study area is roughly bounded by John Muir Parkway to the north, Sycamore Avenue to the south and east (including all of the Waterfront Development), and the San Pablo Bay to the west. Some areas outside of these streets were also included. The following figure illustrates the study area (study area shaded in gray).



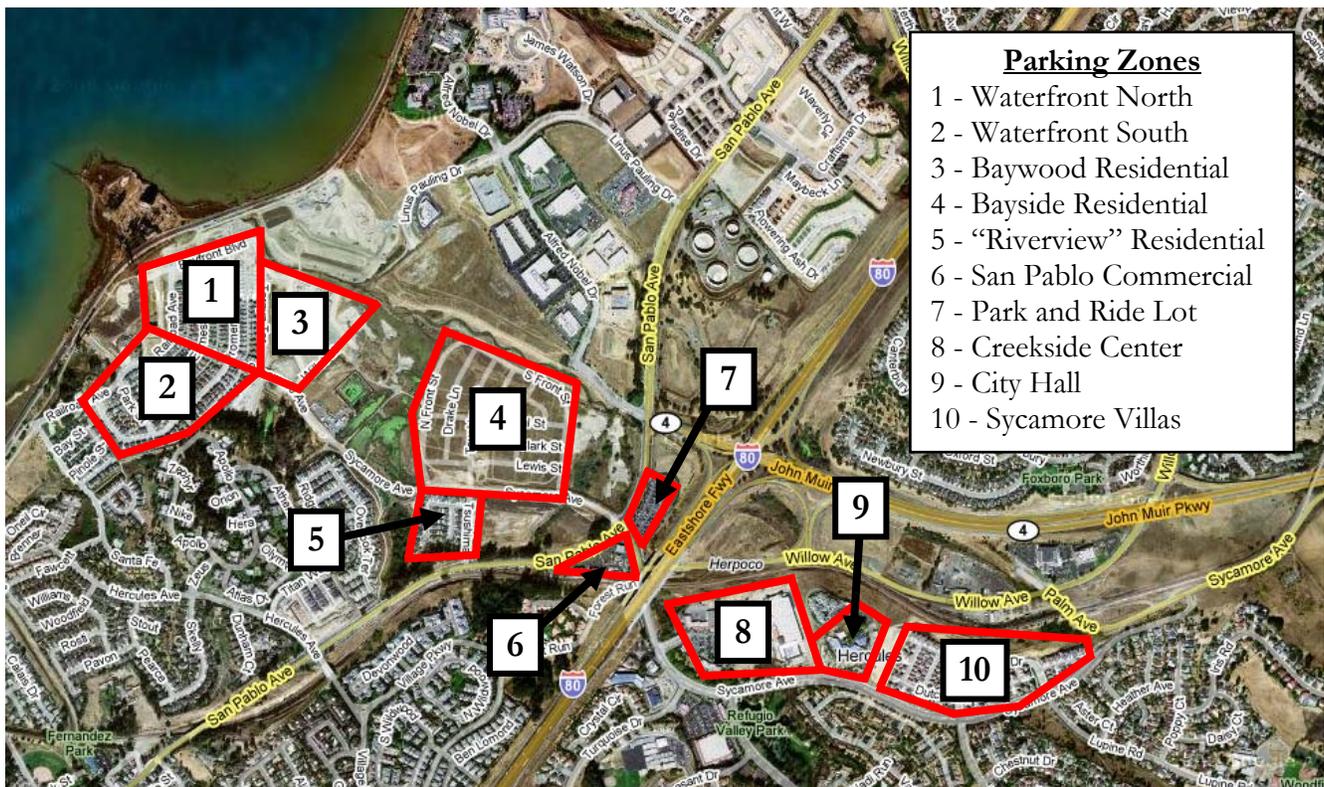
### **Summary of Current Parking Supply and Demand**

**Carl Walker** conducted an initial field review and an inventory of parking spaces located within the Central Hercules study area on November 15 and 16, 2006. The parking spaces were classified into two primary categories, on-street and off-street. For this study, on-street spaces refer to spaces located on a roadway, adjacent to a block, oriented parallel or angled to the curb. Off-street spaces refer to spaces located within a block, and within the curb face. Generally, all on-street parking spaces were available for public parking while the majority of off-street spaces were reserved for a particular group (e.g., specific customers, reserved parking). The majority of the on-street parking spaces in the study area are located in residential areas. In this report, public parking will refer to parking that is unreserved, and therefore available to all user groups. Private parking will refer to parking owned privately and designated for a specific business or user group.

The Central Hercules study area currently has a total parking supply of 2,353 parking spaces. Of these, 1,310 parking spaces (56%) are in off-street parking areas and 1,043 spaces (44%) are located on-street. The on-street parking inventory includes both marked parking spaces and locations where on-street parking is possible but not currently marked. The amount of on-street parking was estimated by **Carl Walker** based on block face lengths and street widths.

Some parking areas could not be accurately inventoried, as they lacked parking stripes or existing stripes were not visible. In these situations, inventories were estimated based on the size of the parking area. Off-street residential parking areas, including apartment complexes and private driveways were not counted in the parking inventory as they would not contribute to any shared parking opportunities.

The study area was divided into ten separate parking zones. These zones were delineated to better analyze the parking characteristics of each portion of Central Hercules. The following graphic illustrates the locations of each of the zones (outlined in red), and the number identifier for each zone. The zone numbers shown in graphic will identify each zone throughout this study.



The specific boundaries for each parking zone were:

1. Zone 1 – Bayfront Boulevard to the north, Sycamore Avenue to the south, Taraya Terrace to the east, and the commercial development west of Railroad Avenue to the west.
2. Zone 2 – Sycamore Avenue to the north, Promenade Street to the south and east, and Railroad Avenue to the west.
3. Zone 3 – Sanderling Drive to the north, Sycamore Avenue to the south, Willet Street to the east, and Taraya Terrace to the west.

4. Zone 4 – Front Street to the north, east, and west, and Sycamore Avenue to the south.
5. Zone 5 – Sycamore Avenue to the north, San Pablo Avenue to the south, Tsushima Street to the east, and Crestridge Court to the west.
6. Zone 6 – The parking contained in the commercial development only (no on-street).
7. Zone 7 – The park and ride lot only (no on-street).
8. Zone 8 – The parking contained in the commercial development only (no on-street).
9. Zone 9 – The public parking and employee parking for the City Hall building only (does not include the parking associated with the new library and the senior apartments).
10. Zone 10 – The parking located within the Sycamore Villas development only.

The following two subsections summarize the current parking supply by type (off-street versus on-street).

#### Off-Street Parking Supply

The study area contained an approximate total of 1,310 off-street parking spaces. There are currently 47 public off-street parking spaces (north of City Hall) and 1,263 private parking spaces. Most of the off-street parking spaces are located in the commercial center on San Pablo (Zone 6), the Park and Ride Lot (Zone 7), and the Creekside Center (Zone 8). Based on current parking space inventories, the city controls approximately 6% of the total off-street parking supply. The relatively low number of off-street public parking spaces is not unusual, as most privately built parking lots are intended to serve a specific development only. The publicly owned off-street spaces are currently controlled using time-limits and signage, and do not employ any other management method such as parking meters, parking permits, exit cashiers, etc. Of the remaining 1,263 off-street parking spaces, the vast majority are reserved for employees and visitors of specific businesses or buildings.

#### On-Street Parking Supply

The study area contains approximately 1,043 on-street spaces, all of which are controlled by the city. The on-street parking is available to the public on a first-come-first-serve basis, and there are currently no time restrictions or parking technologies (e.g. parking meters, etc.) utilized. Approximately 93% of the on-street parking spaces are located in neighborhoods. While these spaces are theoretically available to the public, some are utilized by residents on a regular basis as they are conveniently located to their homes. Parallel parking is provided on many streets, and approximately 74 angled parking spaces are provided on Sycamore Avenue (in Zone 4).

The following table illustrates the off-street and on-street parking inventory for each parking zone.

	Off-Street Supply	On-street Supply
Zone 1	34	240
Zone 2	0	200
Zone 3	0	130
Zone 4	0	350
Zone 5	0	64
Zone 6	118	0
Zone 7	248	0
Zone 8	834	0
Zone 9	76	0
Zone 10	0	59
<b>Totals</b>	<b>1,310</b>	<b>1,043</b>

After the parking inventory was completed, **Carl Walker** conducted an occupancy survey to determine how many parking spaces were utilized during a typical peak parking period. The completed survey provided a “snapshot” of parking occupancy, and did not attempt to determine the absolute peak parking period. Based on other similar municipal parking occupancy studies conducted by **Carl Walker**, it was determined that the surveys would be conducted every two hours between 8:00 a.m. and 4:00 p.m. (starting at 6:00 a.m. in Zone 6), with additional counts in the residential areas between 7:00 p.m. and 8:00 p.m. The occupancy surveys were conducted on Wednesday, October 25 and Thursday, October 26, 2006.

The parking occupancy surveys looked at two basic categories of parking, on-street and off-street. The intent of the survey was to determine the overall level of parking utilization in each zone, as well as the entire study area. The results of the surveys will serve as a baseline for determining future parking expansion needs and management options.

The overall peak period of parking occupancy occurred at 12:00 p.m. on Thursday, October 26, 2006. During this period, a total of 982 parking spaces were occupied. This level of usage translates into 41.73% of the total parking supply. During the peak period of parking occupancy approximately 31.4% of the on-street parking supply and 50% of the off-street parking supply was occupied. Zone by zone parking occupancy statistics for each day will be provided in the final study report.

The following table illustrates the total observed occupancy levels for all zones in the study area.

**Occupancy Survey Summary - October 26, 2006**

Parking Type	8am	10am	12pm	2pm	4pm
Off-Street Occ.	480	591	655	640	551
On-Street Occ.	372	362	327	301	308
Off-Street Supply	1,310	1,310	1,310	1,310	1,310
Space Available	830	719	655	670	759
% Occupied	36.64%	45.11%	50.00%	48.85%	42.06%
On-Street Supply	1,043	1,043	1,043	1,043	1,043
Space Available	671	681	716	742	735
% Occupied	35.67%	34.71%	31.35%	28.86%	29.53%
Total Supply	2,353	2,353	2,353	2,353	2,353
Space Available	1,501	1,400	1,371	1,412	1,494
% Occupied	36.21%	40.50%	41.73%	39.99%	36.51%

The following table provides a summary of off-street and on-street parking occupancies, by zone, observed during the individual peak period of parking demand for that zone. The highest concentrations of parking occupancy occurred in Zones 6, 7, and 10. The peak period of parking in residential areas occurred during Wednesday evening. The parking in Zone 7 (the Park and Ride Lot) was full by approximately 6:00 a.m. on Thursday.

	Total Parking Supply	Peak Parking Occupancy	% Occupied at Peak	Peak Period
Zone 1	274	79	28.8%	Wed. - 8:00 p.m.
Zone 2	200	94	47.0%	Wed. - 8:00 p.m.
Zone 3	130	50	38.5%	Wed. - 8:00 p.m.
Zone 4	350	158	45.1%	Wed. - 8:00 p.m.
Zone 5	64	19	29.7%	Wed. - 8:00 p.m.
Zone 6	118	91	77.1%	Thur. - 2:00 p.m.
Zone 7	248	248	100.0%	Thur. - 6:00 a.m.
Zone 8	834	287	34.4%	Thur. - 12:00 pm
Zone 9	76	29	38.2%	Thur. - 12:00 pm
Zone 10	59	37	62.7%	Wed. - 8:00 p.m.
Overall	2,353	982	41.7%	Thur. - 12:00 p.m.

In determining the current parking adequacy for each zone, it is important to define two terms typically used in analyzing parking adequacy: Effective Supply and Design Day Conditions. When a parking area's occupancy reaches 85-90% of the total capacity, depending on the user group, the area becomes effectively full. When parking lot occupancy exceeds effective capacity, users become frustrated as it becomes increasingly difficult to find an available parking space. Users will begin to either park illegally in the lot or leave the lot altogether and search for parking elsewhere. When faced with significant parking difficulties in a downtown environment, visitors can choose to avoid the downtown altogether and shop in the suburbs. The effective supply percentage for parking in each of the parking zones has been estimated at 90%. This 10% "cushion" of spaces is used to accommodate spaces lost temporarily due to construction, improper or illegal parking, and provides for shorter searches for available parking.

Design day parking conditions attempt to represent typical peak activity that may be exceeded only occasionally during the year. Due to the limited nature of the occupancy study for this project, as well as the time of the year the surveys were completed, design day adjustments will not be factored into the adequacy model. The occupancy survey that was conducted provided an adequate “snapshot” of parking conditions during a typical peak parking period.

The following table illustrates the observed parking adequacy for each zone, based on the peak period of parking occupancy. Overall, there is a substantial surplus of parking available in Central Hercules.

	<b>Total Parking Supply</b>	<b>Effective Parking Supply (90%)</b>	<b>Occupied Spaces at Peak</b>	<b>Estimated Parking Adequacy</b>
Zone 1	274	247	79	168
Zone 2	200	180	94	86
Zone 3	130	117	50	67
Zone 4	350	315	158	157
Zone 5	64	58	19	39
Zone 6	118	106	91	15
Zone 7	248	223	248	-25
Zone 8	834	751	287	464
Zone 9	76	68	29	39
Zone 10	59	53	37	16
Overall	2,353	2,118	982	1,136

Based on the effective parking supply of the study area, there is currently an overall parking surplus of approximately 1,136 parking spaces, or approximately 54% of the effective supply. The only zone with an estimated parking deficit is Zone 7 (the Park and Ride Lot). The actual parking deficit is probably much larger, as many people were observed parking on John Muir Parkway and walking to the Park and Ride Lot. Approximately 75 vehicles were parked on John Muir Parkway by 12:00 pm on Thursday. Therefore, the actual parking deficit for Zone 7 may be 100 spaces or more.

Current land use data for the study area by building square footage was not provided for this report. So, parking adequacy is based solely on observed parking demand. As vacancy rates for both commercial and residential land uses are not currently quantified, observed parking demand may be lower than the demand that would be calculated for the downtown land uses.

It is important to note that while a significant parking surplus exists in all areas, a substantial portion of the parking is private and use is restricted. Of the total off-street and on-street parking supply in the study area, approximately 46% (or 1,090 spaces) is public parking, with the remaining 54% (or 1,263 spaces) of the parking supply restricted to a specific user group (e.g. city employees, business employees, specific customers only, etc.) At the overall peak parking period (Thursday at 12:00 p.m.), approximately 33% of the public parking supply and 50% of the private parking supply was utilized. It is also important to note that a significant portion of the public parking is located on-street in residential areas. This parking will most likely not be available to support future commercial parking needs.

The utilization of available parking supplies was low to moderate in most zones. However, parking utilization was moderately high in Zone 6 and effectively full in Zone 7. The parking demand for Zone 6 peaked between 12:00 p.m. and 2:00 p.m. on Thursday, as people visited the restaurants contained in the development. While the available parking in Zone 6 never filled, the vehicle traffic inside the parking lot created delays in finding open parking spaces and entering/exiting the lot.

The parking lot in Zone 7 provides parking for people using mass transit to get to surrounding cities as well as for carpoolers. As stated previously, the Park and Ride Lot (Zone 7) was completely full by approximately 6:00 a.m. Assuming an effective supply of 90%, the parking deficit in this zone could be 100 or more spaces. As this zone currently has the highest level of utilization, additional time was spent observing parking conditions in the Park and Ride Lot. The following observations were made in the Park and Ride Lot during the parking occupancy counts.

- The parking lot contains a small carpool staging area on the south side of the lot. This staging area is not large enough to support the current level of carpool demand. The total number of vehicles waiting for carpoolers reached approximately 20 vehicles at peak. The existing staging area can support approximately six vehicles. Some carpool vehicles (approximately five to six vehicles at a time) parked in the southern bus pullout area. The vehicles parking in the pullout used approximately one-half of the available pullout space. Only two buses used the pullout area during the peak period of carpool activity (for approximately 10-15 minutes).
- Vehicles began periodically backing-up onto Sycamore Avenue by 6:00 a.m. While periodic traffic back-ups were noted, they were generally short. The single entry/exit point on Sycamore Avenue began backing-up due to:
  - a high volume of entering vehicles;
  - a high volume of exiting vehicles (carpoolers);
  - pedestrians crossing the entry/exit point to reach vehicles parked in the southern bus pullout (carpoolers);
  - the movement of carpool vehicles from the staging area to the southern bus pullout.



While traffic occasionally backed-up on Sycamore Avenue, it appeared that the back-up was due more to general traffic volumes, as well as the spacing and timing of the traffic lights, than the Park and Ride Lot.

- After the parking lot filled, vehicles continued to enter the parking lot looking for parking. There is currently no “Lot Full” sign or counting system in the lot. While vehicles did continue to enter the parking lot, the volume of vehicles entering the lot did not cause significant internal traffic issues.
- A large number of the vehicles parking in the lot appeared to belong to carpoolers, opposed to transit riders. During the observation period, the large majority of parkers were catching carpools

and few were seen entering buses. Additional studies may be necessary to quantify the number of carpool parkers using the lot.

- Carpool pick-up activity was active through approximately 9:00 a.m.

Several alternatives exist to improve the parking situation in the Park and Ride Lot. Options to improve parking conditions could include:

- To reduce carpool parking challenges in the lot, underutilized parking in the study area could be used to provide alternative carpool parking. For example, the underutilized parking located at the Creekside Center or at the church on the eastern edge of the study area could provide carpool parking. Obviously, this would require the approval of the land owner. Sufficient steps would need to be taken to ensure carpool parking could be provided without adversely impact existing parking operations. Also, some carpoolers return to their vehicles in the afternoon using public transit. Therefore, any relocated carpool parking will need address this issue.
- The institution of parking fees may work to limit parking demand.
- Lot counting systems, with variable message signs, could be installed to alert drivers that the parking lot is full. Signage could also be located on freeway exits to direct drivers to other parking options if the lot is full.
- The bus pullout located on the southeast edge of the lot could become carpool staging. Currently, one-half of the pullout is used for carpool pick-up. Based on observing traffic in the lot, the whole pullout could be used for carpool staging – providing space for approximately six additional carpool vehicles.
- The southern entry/exit point could be designated for buses only. This would force all passenger vehicles to the northern entrance. As the parking lot is fairly small and fills early, a single entry exit point may be adequate. Enforcement of this option may be difficult.



### **Preliminary Projection of Future Conditions**

Currently, the City of Hercules has a number of possible future development projects in the planning stages that will impact parking in the study area. These projects include transit, residential, retail, restaurant, and office projects. As of November 2006, the potential developments were estimated as follows:

1. Penterra Development – This development is currently projected to include up to approximately 55,000 square feet (s.f.) of retail space and up to 120 residential units. The development would be located south of Sycamore Avenue, adjacent to Zone 5.
2. Masonic Development – This development would be located adjacent to Zone 2, on San Pablo Bay. The development is projected to include five single-family homes, a small business office building, and a Masonic Lodge (including 4,000 s.f. of restaurant space and five apartments).
3. Bayfront Development – This development would be located adjacent to Zone 1, on San Pablo Bay. The Bayfront development is anticipated to include 18 live/work units, with approximately 90,000 s.f. of space, and 20,000 s.f. of commercial/office space.
4. New Town Center (West Portion) – New Town Center is a conceptual plan for the development of a significant amount of new residential, commercial, and structured parking on the site of the existing Park and Ride Lot. This development is still highly conceptual, and is anticipated to be fully built-out in 10 or more years. The western portion of the development (anticipated for Zone 7) would include approximately 200 to 300 residential units, 96,000 s.f. of commercial space, and approximately 900 structure parking spaces.
5. New Town Center (East Portion) – This portion of the New Town Center development, anticipated for north of Willow Avenue (east of Interstate 80), would include approximately 1,500 to 2,200 residential units, 150,000 to 250,000 s.f. of commercial/retail space, 300,000 s.f. of office space, and as many as 6,100 structure parking spaces (with up to 500 parking spaces for transit users/carpoolers). As with the West Portion, this development is still conceptual.



6. Waterfront Development – This development would be located north of Zones 1, 2, and 3. The development is anticipated to include up to 1,500 residential units, 80 senior housing units, 100 hotel rooms, 60,000 s.f. of hotel conference space, 100,000 s.f. of office, 25,000 s.f. of retail spaces (in addition to the 20,000 s.f. included in the Bayfront development), and 53,000 s.f. of flexible commercial space. This project is still under development, with a more detailed project description scheduled to be completed in mid-January. It is not yet clear exactly how much parking may be provided with the project.



7. Bio-Rad Development – Bio-Rad is anticipating adding an additional 200,000 s.f. of lab, office, and manufacturing space north of Zone 3 (just outside the study area). This additional space will increase the parking demand for employees in the area, and may impact parking in nearby developments and residential areas.
8. Sycamore Downtown - This development would be located north of Sycamore Avenue, within Zone 4. This development is currently projected to include up to approximately 30,140 s.f. of retail space and up to 104 residential units.

The following figure illustrates the location of each of the anticipated development projects. The projects are identified by number.



Each of the aforementioned development projects will impact existing parking supplies and demand. To project future parking adequacy, the anticipated parking demands for each development project were estimated (where possible). Potential future parking demands were estimated using existing city parking requirements, as well as the ULI Shared Parking Model. Finally, the estimated parking demand was compared to the available parking within the area each development is located. The following table illustrates the projected parking supply and demand impact of each projected development project.

Project	Estimated Parking Required per City Requirements	Projected Parking Demand per ULI Shared Parking	Parking Supply Included with Project	Projected Parking Surplus/Deficit Comments
1. Penterra Development	433 spaces	383 spaces	TBD	Surplus/deficit will depend on how many parking spaces are provided with the project. Some on-street parking on Sycamore may be available (depending on the Sycamore Downtown project).
2. Masonic Development	TBD - Parking demand will depend on the square footage of the Masonic Lodge.			There is currently very little surplus parking available nearby (primarily on Railroad Ave.)
3. Bayfront Development	TBD - Will depend on the division of space in the live/work units and the final square footage of provided retail space.			Surplus parking may be available on Bayfront Blvd., depending on the impact of the Waterfront Development.
4. New Town Center (West)	984 spaces <sup>#</sup>	870 spaces	Approx. 900 spaces	The amount of parking needed for this development will depend on the final design. However, the estimated need for 900 spaces appears close to the demand that Carl Walker would project.
5. New Town Center (East) <sup>*</sup>	Low Est. = 5,300 spaces; High Est. = 7,100 spaces	Low Est. = 3,570 spaces; High Est. = 6,000 spaces	As many as 6,100 spaces	The amount of parking needed for this development will depend on the final design. However, the estimated need for 6,100 spaces appears close to the demand that <b>Carl Walker</b> would project.
6. Waterfront Development	3,980 spaces (not including the hotel conference space, which is not addressed in the code).	4,003 spaces, including the hotel conference space. Without the conference space, 3,184 would be estimated.	TBD	The amount of parking needed for this development will depend on the final design. According to preliminary designs, a significant amount of on-street spaces will be created. The estimated parking shown does not include parking for transit users.
7. Bio-Rad Development	TBD - Parking demand will depend on the square footage of each land use (e.g. lab, office, manufacturing, etc.)			This development will increase the need for long-term employee parking. Sufficient parking will need to be provided to minimize impacts on neighborhoods.
8. Sycamore Downtown	331 spaces	273 spaces	194 spaces (surface and structure)	Surplus on-street parking is available on Sycamore Avenue (as many as 74 spaces). The Penterra development may impact how many spaces on Sycamore are available (and vice-versa).

Notes:

# = The parking needed for the 96,000 s.f. of commercial space is estimated at 4/1000 s.f. 300 residential units were assumed.

\* = The parking needed for the 150,000 s.f. to 250,000 s.f. of commercial space is estimated at 4/1000 s.f. Estimates include 500 spaces for transit parkers.

Please note that the projection of future parking conditions does not include any adjustments relative to the impact of captive market conditions or the use of alternative modes of transportation. These adjustments could reduce the amount of parking required for applicable developments. At present, these adjustments would probably be modest in Hercules, although future changes in transportation and pedestrian/bicycle connections could reduce parking demand.

Clearly, all of the anticipated developments will have an impact on parking in the study area. Projects 2, 3, and 7 will need further definition to project parking demands, but they can obviously impact parking in the zones adjacent to the developments. Projects 4, 5, and 8 appear to be providing an amount of parking that is close to the estimated need. This is particularly important for the Sycamore Downtown and New Town Center (West) projects, as they will need to minimize or eliminate the potential impact on parking in nearby neighborhoods. The final two projects, the Penterra Development and the Bio-Rad development do not currently have projections on how much parking will be provided with new construction. However, sufficient parking will need to be provided to minimize impacts on surrounding neighborhoods.

In addition to the development projects previously noted, there are other transit related issues that will impact parking in the study area. These issues include:

- Bay Area Rapid Transit (BART) is considering charging for parking in the existing Park and Ride Lot. Monthly parking permits (\$63 per mo.) and daily parking (\$3 per day) will be provided. A parking fee reduction may be provided to people who park in the lot and then use mass transit (no parking fee reduction for carpoolers). Daily parking fees will be collected using automated cashing equipment, and parking enforcement will be provided by BART. It is anticipated that the parking fees will be in place within the next six months.

The collection of parking fees in other BART parking facilities have created some parking vacancies, as parkers move to other parking options. As a large number of the people using the parking lot may be carpoolers, parking fees may lead some to look for parking elsewhere. This could have a profound impact on nearby parking supplies (e.g., on-street spaces, neighborhoods).

- The Water Transit Authority (WTA) is currently in the process of developing a ferry landing on San Pablo Bay (adjacent to, or perhaps part of, the Waterfront development). The potential parking need is still not clear, as design work is ongoing and the project timeframe is quite long (construction beginning in 2013). However, the parking needed to support ferry services could be significant. Based on information from a 2004 parking study for the ferry service in Vallejo, California, the parking needed to support ferry customers was projected at between .375 and .41 parking spaces per daily rider. Reviewing parking occupancy for the Vallejo ferry stop, over 1,100-1,200 parking spaces are fully utilized for a daily ridership of approximately 3,000.
- Rail service may be provided in the area in the future (Capital Corridor Rail Station), with construction anticipated to begin in 2008. It is currently anticipated that the service would include approximately 16 to 18 stops at the Hercules station each day (in each direction of travel). While ridership data was not available for this report, it has been estimated by the rail operator that approximately 300 parking spaces will be required for rail station patrons. Additional analysis will be required once ridership data is available.

### **Preliminary Options and Recommendations**

The current vision for Central Hercules includes many elements. The area is planned to become a more important social and commercial center, with the development of new residential, restaurant, retail, and

office space as central focal points. This vision will result in higher parking demands, and denser land uses, than the current environment. To support the current development vision, the city desires to create a more pedestrian friendly environment with sufficient parking. With this in mind, and after reviewing existing conditions, **Carl Walker** offers the following preliminary issues, options, and recommendations related to providing parking in Central Hercules (some of which may be detailed further in the remaining tasks of this study):

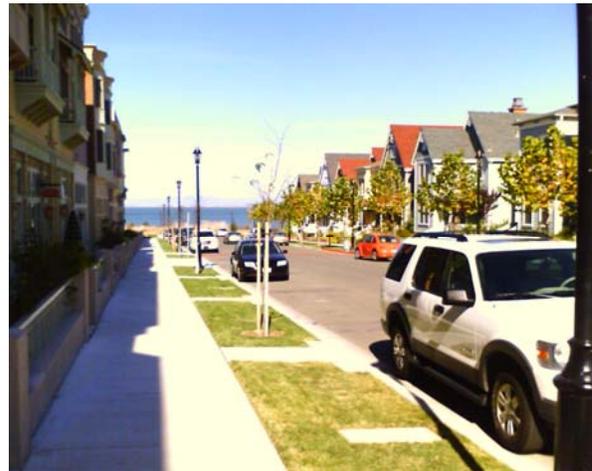
- While there is currently a substantial surplus of parking located in Central Hercules, most of the parking is located in private parking lots or residential areas. Therefore, new parking supplies will be needed in the future to support the anticipated developments. In order to address future parking needs, **Carl Walker** recommends the following methodology:



- Ensure the land use information for the area is current. This will provide additional insight into existing parking demands. The land use data should be updated as new developments occur.
- The first step in planning for future parking needs is to determine typical parking demands. This is usually achieved by completing a parking supply and demand survey. As was completed as part of this study, this would entail maintaining current parking space inventories and conducting parking occupancy counts. This will provide a baseline of demand data from which to project future parking needs. These surveys will also help determine the correct mix of short-term and long-term parking (based on the utilization of each type of parking).
- Project the parking needs of each proposed development using city parking codes. Ideally, the code would be updated to address some of the issues noted in this report. Determine how parking demand for the new development will fluctuate during the day by using a shared parking model (a sample model will be provided by **Carl Walker** as part of this study, based on Urban Land Institute data). Determine how parking demand for the proposed development will impact parking supplies during the period of greatest parking demand. Adjustments for reductions in parking demand can also be made, due to captive market effects, the utilization of alternative modes of transportation, and various parking management strategies.
- Once parking demands have been projected, determine how the development will impact existing conditions. If the development creates a parking deficit within the area in which it is located (the area would typically be a one to two-block radius surrounding the development), additional parking supplies may be necessary.

- While the parking demand for many land uses can be spread over greater distances, the creation of residential space in the downtown should include sufficient adjacent parking. Sufficient parking generally means enough parking to meet projected demands. Residential developments that lack sufficient parking can be difficult to effectively market, and conflicts could arise should a significant use of public parking spaces be required to support commercial projects. This is not to say that two parking spaces per unit should be required, as many factors may reduce parking demand (e.g. transit availability, parking prices, availability of services – such as markets, personal services, etc. – within acceptable walking distances).
- Future downtown developments should include sufficient ADA accessible parking on-site. The city should require developments to provide a suitable portion of their required parking on-site (or directly adjacent to the site) to ensure enough accessible parking is provided. This parking could be provided in a city parking facility adjacent to the development. Sometimes, parking demand for accessible parking may be larger than the minimum requirements. In order to ensure sufficient space is provided, periodic reviews of accessible parking demand should be part of larger parking inventory and occupancy surveys. Through periodic occupancy studies, and community input, the city will be in position to ensure sufficient accessible parking is provided.
- The existing parking zoning code, while providing a significant amount of guidance on parking issues, could limit flexibility in meeting future needs and addressing community development goals. *Carl Walker* would recommend that the city consider updating the parking zoning code to better address the following issues:

- **Shared Parking** – The current city parking code does not appear to allow for the calculation of parking demand using a shared parking methodology. The lack of a shared parking methodology can lead to the creation of too much parking in the study area. Shared parking is defined as parking that can serve more than one single land use, without conflict. Shared parking is generally applied to mixed-use developments, or downtown developments composed of several different land uses (e.g. retail, office, theater) that are significantly integrated. Using the shared parking model reduces the amount of parking needed for a mixed-use development (or other groupings of adjacent land uses), as the effect of sharing parking requires fewer spaces than the sum of the parking needed for the individual land uses. It is recommended that the zoning code be updated to utilize the latest Urban Land Institute shared parking model (2005). A shared



parking methodology and electronic model (based on the Urban Land Institute model) will be provided to the city as part of this report.

- **Flexibility in Meeting Parking Requirements** – The existing city code does not provide much flexibility in determining parking demands for a potential development, nor alternatives for meeting parking demands. Adding flexibility in calculating and meeting parking requirements can ensure sufficient parking is provided without creating unnecessary parking supplies or sacrificing community development standards. Flexibility can be added through shared parking concepts (as noted in the previous bullet point), allowing development specific parking studies to set demand, the use of parking in-lieu fees, etc.

Many zoning codes require that the parking provided for a specific land use be located relatively close to the structure that the parking will support. This would include setting maximum distances (in feet) from the building, as well as restrictions on providing parking across streets and alleys (if any are set). It is common for small community zoning codes to require parking lots be located either on the same parcel as the primary parking demand generator or within 300 feet of the building they serve. Setting this limit will allow developers to determine if underutilized parking resources exists within an acceptable walking distance. If developments will be allowed to use the parking contained within another property, and owned by another individual or group, it is important that sufficient documentation be provided that guarantees the parking will be available for the anticipated lifespan of the development. This documentation could be provided by way of a written parking agreement or property covenant. Additional provisions could be included in the agreement requiring the developer to either construct the necessary parking, or pay an in-lieu fee to the city, should the off-site/shared parking become unavailable.

Parking demand for a development can vary greatly from published parking demand ratios. Therefore, it is often a good practice to allow developers to conduct site specific parking demand studies to determine parking needs. This would allow developers and property owners to more accurately determine parking demand using either a shared parking model or a detailed parking supply and demand study. Shared parking could also be applied to developments that incorporate residential land uses as well.

Finally, developers and property owners should be provided the option of using alternatives to constructing parking to meet parking demands. This is commonly accomplished through parking in-lieu fees or special development assessments. The current city code does not include a provision for parking in-lieu fees. An in-lieu fee would allow developers to pay the city for the right to not construct a portion or all of the parking required by the development. The funds raised through parking in-lieu fees would help fund future public parking facilities constructed by the city. This could be a specific development fee or an in-lieu fee.

The use of parking fees like in-lieu can have several advantages:

- Offering parking in-lieu fees provide developers with an option to providing expensive on-site parking. The cost of purchasing land and funding lot construction is typically more expensive for developers than paying the in-lieu fees.
- Parking in-lieu fees can encourage shared parking. As developers stop constructing small private parking facilities, parking is consolidated into larger public parking supplies. This can result in a more efficient use of available land, the creation of fewer parking spaces, and conditions that encourage pedestrian movement between developments.
- The city would have more control over where parking resources are located and how they are operated and managed.
- Constructing public parking facilities provides the city with more control over how the facilities are designed.

While the use of developer parking fees can provide a lot of benefits to the city, there are also some potential drawbacks:

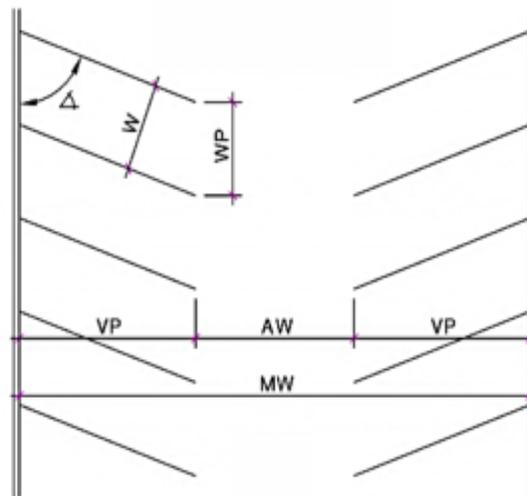
- Parking may be located less conveniently to primary destinations. As parking is consolidated into fewer locations, some primary destinations will be located further away than if they provided their own parking.
- As the city creates more public parking facilities, the city will have to cover annual operating, maintenance and management costs.
- As shared parking would be used, fewer parking spaces would be created. This could mean more traffic and frustration during unusually high periods of parking demand, such as during special events.
- The use of these fees could discourage development of the downtown in favor of suburban locations with space for surface parking.
- Depending on how the construction of the parking facility is financed, the city could be limited in how the facility is used to provide parking for private developments.
- The in-lieu fees collected must be held for parking construction only. If the fees collected are allocated elsewhere in the city government, funds may not be available to construct necessary parking facilities. This will obviously anger those that paid the fees in the anticipation of future public parking facilities.
- The timing of parking facility construction needs may not occur at the same time sufficient funds exist.

The fees charged to developers are typically determined by either the cost of land or the typical construction cost of parking per parking space. The construction cost per space could be set at the cost to provide surface or structured parking. For example, a municipality may decide to charge the current typical construction cost of a structure parking space at \$18,500 per space. A development that would typically be required to provide 50 parking spaces would therefore be charged \$925,000 in-lieu of providing the necessary parking. This fee could be converted into an impact fee of “X” dollars per square foot by dividing the total calculated parking in-lieu fee by the gross square footage of the development. *Carl Walker* would recommend setting development fees or in-lieu fees at a minimum of providing structured parking to help fund future parking construction. This fee would not be a requirement, but would be another option that developers could use to provide parking for their projects.

- **Shopping Center Parking Requirements** – The current city code provides a parking requirement for shopping centers as a single land use. This can result in inaccurate parking demand calculations as shopping centers contain varying land uses. For example, a shopping center with a significant amount of restaurant space will have a higher parking demand than a shopping center that contains purely retail land uses. Therefore, it is recommended that the city consider eliminating the shopping center parking requirement, and instead calculate the parking needed for shopping centers based on the individual land uses using a shared parking methodology.
- 
- **Bicycle Parking Requirements** – Some municipalities include requirements for bicycle parking in their parking zoning codes. This is done to encourage the use of alternative modes of transportation and to reduce the likelihood of people chaining bicycles to street signs, benches, etc. Bicycle parking requirements are typically based on a percentage of the parking that is required to be provided or the square footage of the land use. The city could start with a small requirement, perhaps a minimum of two bicycle parking spaces per land use, and then monitor usage to determine if a higher requirement would be warranted.
  - **Parking Space and Facility Design Standards** – While the stall size described in the code is similar to parking industry standards (currently nine feet wide by eighteen feet long), the lack of more detailed dimensions should be addressed. The code should include all parking design standards so that developers, architects, etc. can better prepare the necessary parking site plans. *Carl Walker* typically recommends the following parking design standards:

Parking Angle	Stall Width Projection (WP)	Module Width (1) (MW)	Vehicle Projection (VP)	Aisle Width (AW)
45	12'-9"	49'-10"	17'-7"	14'-8"
50	11'-9"	51'-7"	18'-2"	15'-3"
55	11'-0"	53'-0"	18'-8"	15'-8"
60	10'-5"	54'-6"	19'-0"	16'-6"
65	9'-11"	55'-9"	19'-2"	17'-5"
70	9'-7"	57'-0"	19'-3"	18'-6"
75	9'-4"	58'-0"	19'-1"	19'-10"
90	9'-0"	62'-0"	18'-0"	26'-0"

*Note: (1) Wall to wall, double loaded aisle.*



In addition to space dimension standards, additional clarification is needed for facility design standards. First, are tandem parking spaces permitted in Hercules? Tandem parking spaces are spaces placed end to end with the potential that one parked vehicle could block another parked vehicle. Tandem parking spaces are typically found in residential developments (usually where one household owns both vehicles using tandem spaces) or in situations where valets are parking vehicles. The city should define the situations where tandem parking will be permitted, if it is permitted at all.

A second issue is the design of parking structures. The existing city code does not currently address design standards for structured parking facilities. Generally, downtown design standards would provide additional parking location and design requirements. Issues such as parking structure façade treatments, screening and landscaping, location of

on-site parking and set backs would be addressed, as well as adjustments in parking space requirements. However, the current zoning code does not address parking facility design beyond basic surface lot issues. Design requirements such as acceptable ramp slopes, drainage issues, parking access drives, adjustments for angled parking spaces and one-way traffic flows, turning radii, sight distances, signage requirements, etc. should be defined and included. For example, the code does not specify any ramp slope requirements for parking facilities. Ideally, maximum parkable ramp slopes (ramps that have parking spaces on them) should be set at 5-6% and maximum non-parkable ramp slopes (such as access drive aisles) should be set at 12% (with the requirement of transition slopes at the top and bottom of ramps with slopes greater than 10%).

Finally, parking facility lighting is another item only minimally addressed in the existing zoning code. Parking lot lighting requirements should include photo-cell regulated lighting with a minimum requirement of 2 footcandles to meet current Illuminating Engineering Society of America recommendations for downtown parking facilities.

- **Accessible Parking Requirements** - The current city code includes a provision that requires a minimum amount of accessible parking for each development. The accessible parking required is based on building square footage, and not on the number of parking spaces provided. The current zoning code does not meet current ADA accessibility guidelines related to parking, does not provide requirements for van accessible parking, and does not specify parking design requirements. The city needs to update accessible parking requirements as soon as possible to meet current requirements. Basic parking requirements are calculated based on the number of parking spaces provided (by lot/facility) as follows:

Total Parking Provided in Lot	Required Minimum Number of Accessible Spaces*
1 to 25 spaces	1
26 to 50 spaces	2
51 to 75 spaces	3
76 to 100 spaces	4
101 to 150 spaces	5
151 to 200 spaces	6
201 to 300 spaces	7
301 to 400 spaces	8
401 to 500 spaces	9
501 to 1,000 spaces	2% of the total parking provided
1,001 spaces and over	20 plus 1 space for each 100 spaces provided over 1,000

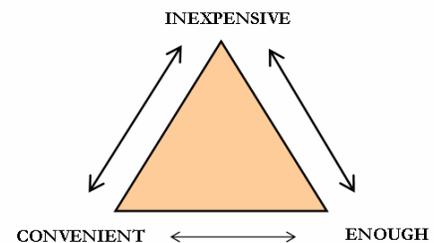
\* = Fractions are rounded up to the next whole number.

Parking stall size requirements are typically set at 8' wide with either a 5' or 8' access aisle (with the larger access aisle for van accessible spaces). An accessible space and access aisle cannot be placed at a location with a running or cross slope greater than 1:50 (2%).

It is also recommended that the city update the current ADA accessibility parking requirements to include higher parking requirements for certain medical facilities. The amount of accessible parking provided for hospital/medical office land uses that provide outpatient units and facilities should equal 10% of the total parking provided. Medical land uses specializing in the treatment of mobility impairments should provide 20% of the total parking provided as accessible parking.

ADA parking requirements may change in the near future, and the city will need to update this section of the code in the future.

- **Valet Parking** – The current city code does not provide a provision for valet parking. While there may not be an existing need for a valet parking provision, this may become necessary in the future. The zoning code should address the issue of valet parking by requiring city review and approval of all valet parking plans, proper use of on-street parking for valet staging/parking (if permitted), insurance requirements, vehicle cueing space, etc.
- To support community development goals, future parking lots and structures should be located within developments and parking structures should incorporate ground-level commercial space. Surface parking lots should include landscaping that can provide shade to parked vehicles. This can be accomplished through the use of fast growing, low water shade trees. These trees can be planted around parking lots and in internal landscaped islands. Pedestrian paths to/from parking facilities could also provide shade in a similar fashion. This will help make the off-street parking facilities more attractive to downtown parkers. Parking facilities should also include standard Crime Prevention through Environmental Design Standards (CPTED), such as adequate lighting, active and/or passive security features, elimination of “hiding” places, etc.
- When planning for parking there is a built in conflict to which all municipalities can easily relate. The conflict revolves around three primary factors: Cost, Convenience and Supply. Unfortunately, usually you can have only two of the three. Given this basic problem, keeping all customers satisfied is an on-going challenge. Having well-defined parking principles is one way of addressing the policy decisions required by this inherent conflict.



Guiding principles add value in two primary areas. First, the establishment of a set of approved operating guidelines helps define the role and relationships of parking within the larger organizational structure. Secondly, guiding principles can emphasize the importance of planning for parking. They are not intended to replace policies and procedures. In general, the parking principles should be kept short and concise, a maximum of one or two typed pages. Some of the

items typically incorporated in such a document by other municipalities include mission/vision, funding strategies, approved uses of parking revenues, parking allocation strategies, departmental relationships, enforcement and maintenance responsibilities, etc.

A set of guiding principles will be developed in later phases of this study.

- As many of the projected future development projects will be occurring close to neighborhoods, a provision for neighborhood permit programs may be necessary. Ideally, sufficient parking will be provided with each development so that neighborhood parking is not attractive to development visitors. However, the reality is that on-street parking is tempting for short-term parkers. Add to that the institution of pay parking in the Park and Ride Lot, and residential parking restrictions may be unavoidable. Possible neighborhood parking strategies will be detailed in later phases of this study.



- Parking system management will become more important as Central Hercules continues to develop. Communities the size of Hercules rarely have designated parking departments within city government or quasi-governmental organizations responsible for parking (e.g. parking authorities, downtown development organizations). However, parking management responsibilities do exist. For example, some person or department must be responsible for issues like parking system maintenance, planning for future developments, special event planning, handling parking related complaints/concerns, communicating parking issues to the public, etc. Also, additional responsibilities could arise in the future, such as parking enforcement or parking revenue collections.

While a parking specific department is not currently recommended, the city should consider designating one department as responsible for parking related issues. This department would



coordinate parking maintenance, participate in planning for future parking needs, provide assistance with planning for special event parking, deal with parking complaints/concerns, etc. This department need not directly provide all of these services, as these responsibilities could be distributed horizontally throughout the existing city department structure. For example, parking maintenance could be provided by Public Works and parking enforcement could be provided by the Police Department. However, the community should have a single city contact for all of its parking related concerns.

As the downtown grows in the future, the need for a parking-specific department could arise. Municipal parking services tend to evolve over time. At first, parking is largely unregulated. During this stage most off-street parking is privately owned, and the largest supply of public parking is located on-street. The initial formation of parking system management typically begins as a small component of an existing city department, such as Public Works or the Police Department.

As a downtown becomes more densely developed, parking tends to combine into larger facilities or structures. At this point, paid parking is established to pay for the growing infrastructure and parking enforcement is instituted. As structures tend to be publicly owned, the need arises for an organization to operate and manage the parking supply. Ideally, once the system has reached a significant size, parking responsibilities would be vertically integrated within a single department or organization to improve overall parking system management.

There are typically three approaches commonly used to address the need for parking system operations and management. First, an internal city parking services department could be created. This department could stand alone, or be a sub-department of another department (e.g. a division of Public Works, Economic Development, etc.) The operation of the system could be completely in-house, or the department could receive services from another city department or private parking operator. Second, the city could create a parking authority. This authority would consist of an executive director and a board composed of members of the downtown community. Board members could include members of other organizations (e.g. the Chamber of Commerce, Downtown Business Association), downtown business owners, members of the general public, and city staff. Finally, the city could contract with an outside organization to provide parking system operations and management. For example, the city could contract with a downtown business organization or a private parking operator to provide parking system management.

It is important to note that whatever the parking management approach taken by the City of Hercules, several concepts are always necessary. First, the management of parking resources requires the input and involvement of the private business stakeholders and local residents. They must remain a part of the parking planning process, and they can offer real world options based on their experience. Also, lines of communication must remain open between those responsible for parking within the city and downtown stakeholders. Second, parking policies and regulations must be consistently applied. Once the system guiding principles have been established, they must be adhered to, or they will lose their importance. Third, the parking system must be properly maintained and provide a safe parking environment. Finally, the parking system must be promoted effectively to ensure both visitors and business owners understand the system.

The challenges of parking system management, as well as more detailed management alternatives, will be explored further in later phases of this study.

- Continue encouraging the use of alternative modes of transportation. The community has several different programs in place that can help reduce single occupancy vehicle trips, including: transit incentives; carpool matching and guaranteed ride home; employer education programs, etc.

Involving community transit coordinators in the early stages of development planning can help reduce parking demands and ensure support is in place for encouraging the use of alternative modes of transportation.

Some community development standards encourage the utilization of alternative modes of transportation by providing parking requirement reductions for incorporating transportation alternatives. For example, a developer may be allowed to construct less parking if they include bicycle racks and shower facilities, locate bus stops nearby, provide pedestrian paths and amenities, subsidize employee transit programs, etc.

- The concept of integrating transportation and parking elements as part of the larger strategic vision for Central Hercules supports the adoption of a “Park Once – Pedestrian First” planning concept. This concept encourages employees and visitors to park their vehicles in one location and then use another form of transportation to move around the area with excellent pedestrian, transit, parking, and bicycle facilities. This concept will become very important as the downtown develops.

Three key elements are needed to achieve this vision:

- Ensure streets and sidewalks adequately serve the needs of pedestrians, transit users, bicyclists and vehicles with the focus on serving pedestrians first. This issue can be supported by:
  - The creation of safe, attractive, shaded, and inviting pedestrian linkages to connect downtown destinations and parking facilities.
  - Ensuring pedestrian crossings across major streets provide sufficient time for people to cross the street. For example, this will be important for people crossing San Pablo Avenue.
  - Where necessary, using traffic calming strategies such as speed humps, lower speed, limits, on-street parking, etc.
  - Where possible, including bicycle paths on roadways.
  - Providing amenities such as improved lighting, signage, street furniture, landscaping, etc. in public right-of-ways to support and encourage pedestrian activity.
  - Bicycle racks, lockers, or other bicycle-friendly facilities should be provided throughout Central Hercules.
- Developing, managing and operating parking as an essential civic infrastructure and reducing overall parking ratios over time to create a “Park Once” environment. This issue can be supported by:
  - The usage of in-lieu parking assessments for developments planned in the area to support the future funding of strategically-located parking resources.
  - Encouraging the “Park-Once” strategy through shared parking for both public and private parking resources.

- Ensuring all public parking resources are efficiently and effectively designed and managed. Encourage efficient design and management in private parking resources as well.
  - Maximizing on-street parking throughout Central Hercules and monitoring vehicle duration and turnover. Encourage the turnover of on-street parking through monitoring, communication with downtown business owners and, if necessary, other means such as parking enforcement, parking meters, etc.
  - Where possible, locating long-term parking facilities on the perimeter of the area and locating short-term parking throughout the area. Ensure the proper mix of parking through periodic parking occupancy counts.
  - Incorporating ground floor commercial activity into designs (where appropriate), should a parking structure be developed in the future.
  - Where necessary, improving existing surface parking lots in the downtown (e.g. paving, landscaping, lighting, identification signage)
- Modifying the identity of Central Hercules to make it more understandable and attractive to infrequent users. This can be supported by:
- Actively promoting new attractions and developments, including parking availability/locations and alternative transportation options. This can be done using printed materials, as well as the city website.
  - Developing and implementing a downtown informational and directional (wayfinding) signage program with a special emphasis on available parking resources.

Thank you very much for providing **Carl Walker** with this opportunity to be of service. I would like to also extend a sincere thank you to you, and your staff, for all of the assistance in completing the Task 1 report.

Sincerely,



Matthew Q. Inman  
Senior Planner