

Date: September 19, 2017

**OWNER:****Views on 5th, LLC****PROJECT:****410 5th AVE SW
OLYMPIA, WA****PRELIMINARY PARKING OPERATIONS PLAN:**

1	INTRODUCTION	2
2	OPERATIONAL PLAN	3
3	LAND USE SITE PLAN	5
4	SHORT TERM PARKING	6
5	SYSTEM SPEED	7
6	QUEUEING AND THROUGHPUT (processing time)	9
7	VEHICLE SIZE INFORMATION	10
8	EV READY	11
9	TECHNICAL STUDIES	12
10	SERVICE PROGRAM	13





1 INTRODUCTION

[City Lift](#) brings **Best in Class Systems** to the parking lift industry. We provide semi-automated to fully automated mechanical lift systems. We have proven technology that's still operational in the field after 20 years of service. With this proven history of success, our systems offer longevity, consistency, and efficiency while offering the customer the most user-friendly systems on the market.

Views on 5th proposes a fully automated mechanical parking garage. This project is a new five-story parking tower, with a parking capacity of 137 automated spaces and 3 access bays for storage and retrieval.

Our motors and transmissions are from [SEW motors](#), a German motor manufacturer that is one of the foremost motor providers on the market. Our controls and systems are from worldwide industrial leaders Schneider and Rockwell. These electrical components and electrical control boxes are UL or ETL listed to meet electrical safety standards.

DEFINITIONS

Retrieval rate/time: The time it takes the parking system to store or retrieve a parked vehicle. Does not include loading or unloading.

Throughput/Processing Time: These terms are used interchangeably and have the same meaning.

Throughput or processing time is the time in which it takes to get a vehicle out of the queueing area and in/out of the bay and parked or retrieved by leveraging the time saved by attendant assist, valet or the trained user.

Bays: Entry and exit points of the parking system, similar to a garage. This is where vehicles are parked for storage or retrieved.

GENERAL SUMMARY

A fully automated parking garage is a mechanical system designed to minimize area/volume required for parking vehicles. An automated parking garage utilizes mechanics made up of motors, chains, pulleys and pallets to transport vehicles within the parking system rather than the driver. The driver pulls into a loading bay that looks very similar to a garage; then they drive their vehicle onto a pallet and exit the bay. Once the driver and passenger(s) exit the bay, the driver will pull their ticket from the kiosk (or if the driver is an employee they would use their fob), the bay door will shut and the vehicle will automatically be transported to the parking tower and to its designated parking space.

When the driver is ready to retrieve their vehicle, they will insert their parking ticket into the kiosk (or use their assigned key-fob) which would trigger the retrieval of their vehicle. The vehicle will be delivered facing out so that the driver does not have to back up out of the bay; this allows ease of exit as well as expedites the retrieval process. This fully automated structure consists of three bays. All three bays rotate the car inside the parking system, not inside the bay. The second or middle bay will be designed to meet ADA clearance requirements.

To see an animation of a parking tower, click here: <https://citylift.sharefile.com/d-s223e28469324d33a>

2 OPERATIONAL PLAN

This plan is the “Preliminary Parking Operations Plan” (Plan) for 410 5th Ave SW, Olympia, WA. (Site). The Plan is intended to set forth an operating plan to describe how the parking garage will be operated in order to accommodate the parking needs of the Site. This parking will accommodate the following:

- A. Resident self-parking and attended-assisted parking;
- B. Public self-parking and attendant-assisted parking;
- C. Short term parking

PEAK HOURS

8:00am-9:00am

5:00pm-6:00pm

ATTENDANTS RECOMMENDED

1-2 during peak hours

All 3 bays located on the Woonerf allow room for cars to queue when necessary during peak times. In addition, there are 3 short-term parking spaces that can be used for queueing, loading and unloading.

The driver/user experience would be as follows using attended assisted parking:

Arrival for residents:

1. The user will request their assigned platform or car by either “clicking” their assigned key-fob, or exiting their vehicle and keying in their space number using the touch-screen kiosk mounted on the wall outside the service bay. The driver pulls into the driveway off of Sylvester Street and heads towards the bay that services their assigned space and waits for a green light above the entry bay before entering. Bays in use will have a red-light indicator. The driver will pull their vehicle into the bay. Each bay has a monitor to indicate proper positioning.
2. Driver exits vehicle.
3. Driver exits bay through the same way he/she entered. In front of the bay is a striped pedestrian walkway.
4. Driver will use the kiosk on the wall outside of the bay access door. They will use their issued fob that will trigger the door to close and park vehicle.

Arrival for public parkers:

1. Driver pulls into driveway and is directed to an available bay by an attendant. Available bays are also indicated by a green light above the entry bay. Bays in use will have a red-light indicator. Either the driver or attendant may pull the car into the bay. Each bay has a monitor to indicate proper positioning.
2. Driver exits vehicle.
3. Driver exits bay through the same way he/she entered. In front of the bay is a striped pedestrian walkway.



4. Driver or attendant will use the kiosk on the wall outside of the bay access door for their parking ticket. Parking ticket will trigger bay to close and park vehicle.

Retrieval for residents:

1. Driver “clicks” fob on approach to parking structure, or scans fob on kiosk, which will trigger the system to retrieve their vehicle.
2. Once the vehicle arrives in the bay, bay door will open.
3. Driver enters the bay, drives the vehicle out, and exits site.

Retrieval for public parkers:

1. Driver hands claim ticket and keys to attendant or inserts ticket into kiosk.
2. Once the vehicle arrives in the bay, bay door will open.
3. Driver enters the bay, drives the vehicle out, and exits site.

3 LAND USE SITE PLAN



4 SHORT TERM PARKING

3 on grade spaces
15 on mechanical lift

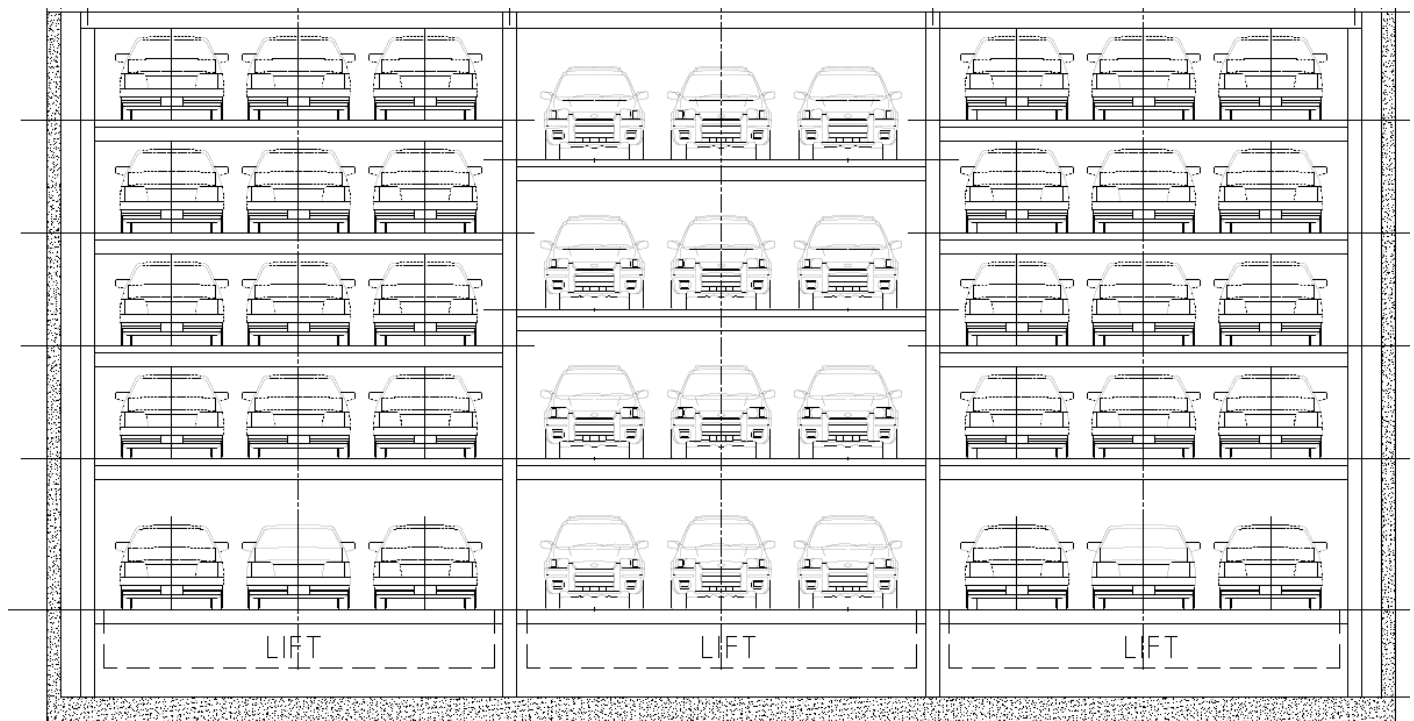
It is recommended that short term public parkers, assigned resident parkers leaving at peak times be assigned non-tandem spaces, or spaces located on lower levels to increase system throughput and reduce queueing and wait times. As highlighted below, queueing can be accommodated along the Woonerf approach the loading bays, or using the 3 short term parking spaces.

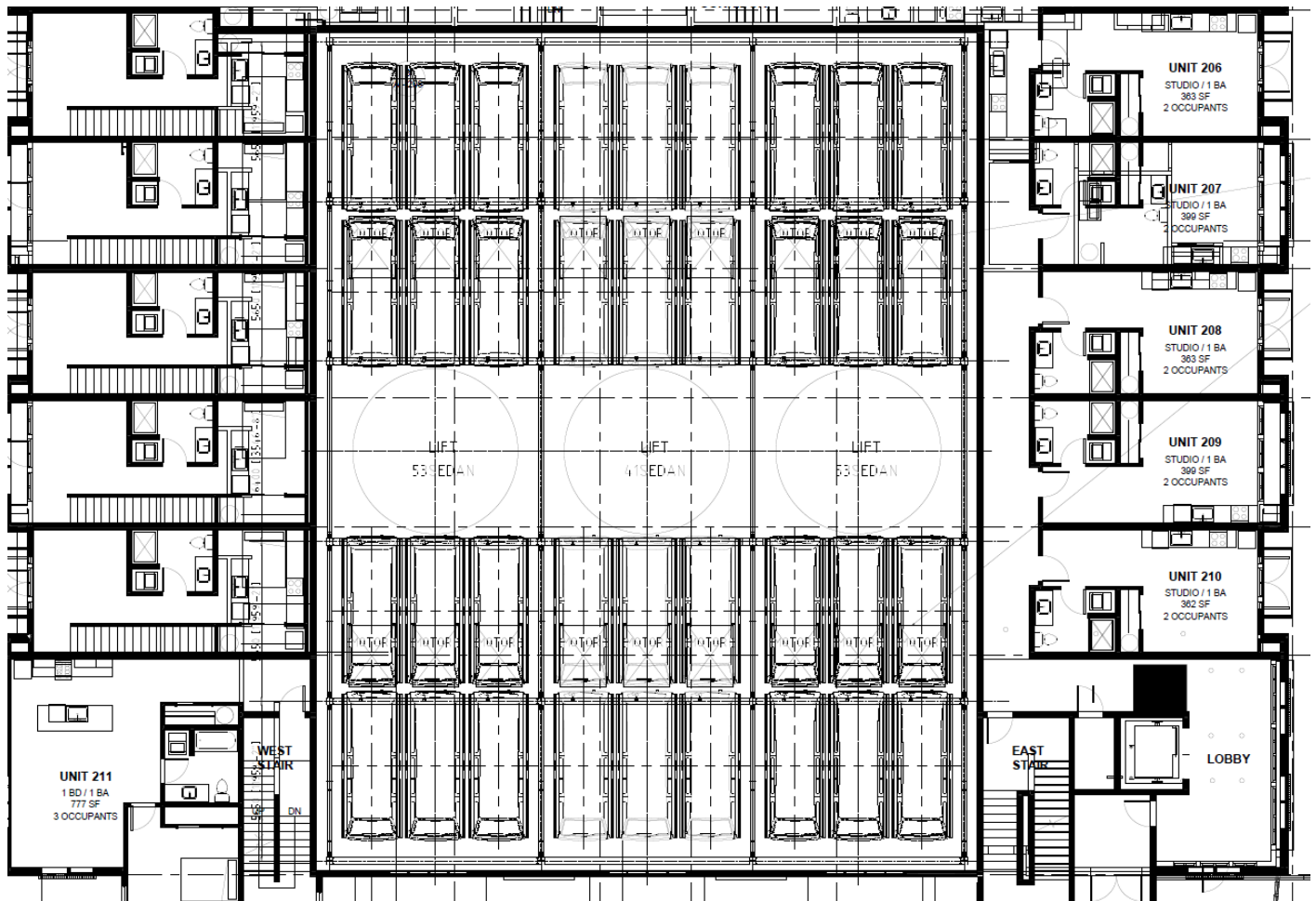


5 SYSTEM SPEED

There are a total of 137 spaces in the parking lift system. The average service time for an individual user without waiting in a queue is roughly 2.6 minutes, with the shortest retrieval times at 1.8 minutes or better for non-tandem spaces, or spaces located on lower levels. For users waiting in a queue, the average retrieval time is 3.7 minutes, with the shortest retrieval times at 2.7 minutes or better for non-tandem spaces, or spaces located on lower levels.

The peak hour of the project is expected to occur between 5:00 and 6:00 p.m. with a total of 72 vehicles (46 entering + 26 exiting). By using 61 non-tandem spaces and 11 tandem spaces across 3 parking systems/bays, the system will be able to achieve an average service time of 2.4 minutes per car. This will provide a system throughput of 75 cars per hour, which can be enhanced through the use of remotely requesting a car (e.g. via a smartphone app or SMS to attendant) combined with an attendant retrieving that car in advance and parking it temporarily in the queue on the woonerf or the 3 short-term parking stall on the woonerf. These enhancements are expected to reduce the service time to 2 minutes or less per vehicle.





6 QUEUEING AND THROUGHPUT (processing time)

During the morning peak hour (8:00 – 9:00 a.m.), a total of 22 vehicles would arrive and 42 vehicles depart for a total of 64 vehicles. Based on a processing rate of the system of 2.4 minutes per vehicle, a total of 75 vehicles within the same time period can be processed by the system with all 3 operating vehicular elevators.

During the afternoon peak hour (5:00 – 6:00 p.m.), a total of 74 vehicles per hours are anticipated with 46 arrivals and 26 departures. Based on a processing rate of the system of approximately 2 minutes per vehicle, and with all 3 operating vehicular elevators and 3 short-term parking stalls with attendant-assist, a 95th-percentile queue of 10 vehicles is anticipated. The maximum available storage on-site is 13 vehicles which includes 3 stalls at each lift elevator, plus 3 short-term loading spaces and 7 vehicles along the woonerf. Therefore, all anticipated vehicle queueing is expected to be accommodated on-site without spill-back onto the public right-of-way (Sylvester Street).

7 VEHICLE SIZE INFORMATION

- Max Length of Vehicle for Views on 5th Automated Parking Structure is 208.5"
- Length of Average SUV: 178" – 190.7". Here are some common large SUVs that will fit: MBZ AMG SUV is 187.6", Ford Expedition is 206.5", GMC Yukon is 203.9"
- A Full-Size car is approximately 195" long which includes the Ford Taurus & Buick Century
- A Standard size car is approximately 180" long which includes the Nissan Altima & Pontiac Grand Am

Vehicles that are longer than 208.5":**

- Ford Ranger: 211"
- Chevrolet Colorado, GMC Canyon, Isuzu D-Max: 211.3"
- Nissan Frontier: 219.4"
- Roll Royce Ghost: 212"-219"
- Rolls Royce Phantom: 220"
- Toyota Tacoma: 221.3"
- Ford Expedition EL: 221.3"
- Cadillac Escalade ESV: 222.9"
- Lincoln Navigator L: 223.3"
- Ford F-150 Platinum: 223.8"
- Chevrolet Suburban (2015 model year) & GMC Yukon XL (2105 model year): 224.4"
- Ford E Series Passenger Van: 236.7"
- Chevrolet Express Passenger Van: 244.1"
- Nissan Titan: 244.3"
- Toyota Tundra: 247.6"
- Ford F-150 is 209.3"-250"
- Mercedes-Benz Sprinter Passenger Van 2500 High Roof 170-in. WB (2009-present) Passenger van/minibus: 273.2"
- Chevrolet Silverado HD & GMC Sierra HD: 259.1"
- Ford F-250: 231.8 to 266.2"
- Ford F-350: 263"

** Please note that these vehicles would be too long for a standard parking lot or structure. There are other vehicles such as work trucks, delivery vehicles and customized cars that are not on this list

8 EV READY

EV Ready is defined as:

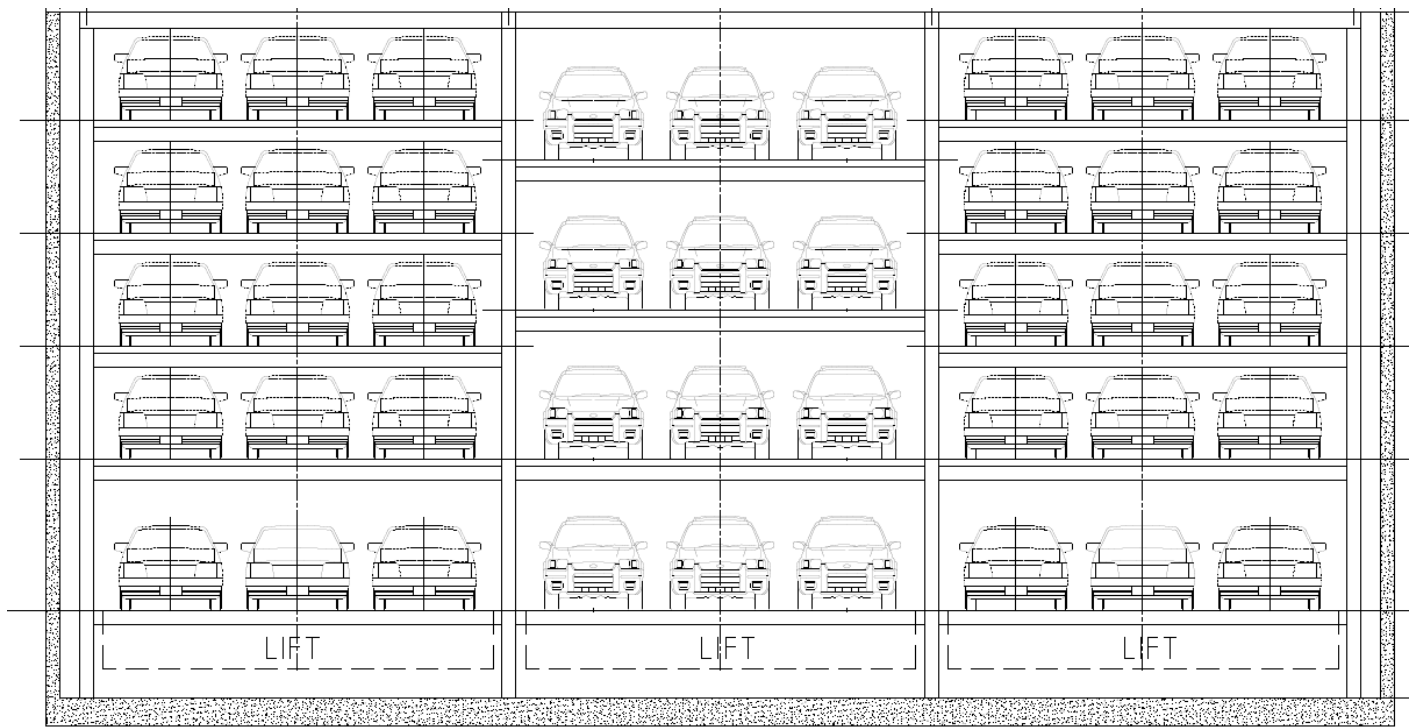
- Power capacity for level II (32 amps per platform (40 amp circuit) charging
- Conduit pulled to locations

Power to platform is provided by a UL rated connection from the platform to its resting place. When the platform is parked within the system it makes a connection. See illustration below:



9 TECHNICAL STUDIES

The proposed solution for Views on 5th is a new 5 level mechanical parking system that will consist of three independent parking towers served by 3 different parking bays serving 137 spaces. Tower 1 and tower 3 are 5 levels each and have 49 spaces: 5 spaces on level 1, and 11 spaces on levels 2-5. Tower 2, the middle tower has 4 levels and has 38 spaces for larger cars and SUV's: 5 spaces on level 1, and 11 spaces on levels 2-4.



10 SERVICE PROGRAM

REGULAR MAINTENANCE = RELIABILITY SERVICE BY TRAINED DEDICATED STAFF COMPREHENSIVE PROGRAM INCLUDES



- On-site staff and customer training
- Regular maintenance program
- 27 point inspection monthly with additional semi-annual and annual components
- 24x7 remote monitoring of operating systems (optional but recommended)
- Uber car reimbursement guarantee to customer if unable to access car for any reason

HISTORICAL REPAIR ANALYSIS

- Our components are built for longevity, durability, and consistency. Below is a chart with repair and maintenance records for 121 installations representing over 8000 spaces from 2012 to 2014 with average installation age of 21 years.

