

2019 CITY OF JACKSON

ON-STREET PARKING PROGRAM RECOMMENDATIONS AND IMPLEMENTATION PLAN

This plan is in draft form. Pricing and policy changes must be formalized and adopted by council. Revenue and cost estimates are subject to change based on the Request for Proposals (RFP) responses. RFP will be released April 4th, 2019, and will be due back May 14, 2019. Questions and comments should be directed to Jordan Rae Hillman, AICP at jhillman@jacksonms.gov.



JACKSON
DEPARTMENT
OF
PLANNING &
DEVELOPMENT

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1 Executive Summary

The City of Jackson Parking Meter Program is currently in critical condition. There are a number of issues currently contributing to the critical condition of the system. These issues include perception, availability, parking enforcement, meter management, signage and striping, revenue implications, parking fine collections, leadership, and policy. Since the program is managed under the umbrellas of multiple departments, there is no single person responsible for the performance of the system. Each issue effects another section of the on-street parking program, but since leadership is segmented it has been difficult to shift the direction of the overall program.

Over time, the removal of enforcement positions in response to budget challenges led to decreased revenue that led to the inability to reinvest in meter maintenance and technology. This snowballed into overall issues with perception, creating the impression that it is low risk to not pay a meter or violate the marked time limits. Simultaneously, meter maintenance also declined as budget allocations were no longer made for parts purchases and the system aged past its useful life. All of these issues snowballed into a drastic revenue decrease that currently leaves the system generating only twenty percent of the revenue it produced in 2000.

The decline of the system has greatly affected the availability of parking throughout the day in downtown. Much to the frustration of daily short term visitors, long term parkers occupy the majority of spaces for the entire day. With substantial redevelopment occurring, there is additional pressure to ensure that the meter system effectively creates turnover. In an ideal system, ten to fifteen percent of spaces on a given block would be available.

With the summary of issues outlined, it is important to establish goals for the modernization of the system:

- Create 10-15% parking availability (85% Occupancy)
- Create revenue sufficient for long term meter program sustainability
- Create public confidence in effectiveness of the system
- Create positive public perception of the system
- Create clear communication of policies and expectations

In order to achieve these goals, this plan outlines a five year conversion plan to replace all 1,161 meters in the downtown meter zone with a one year pilot program on Capitol Street. An initial estimated investment of \$102,850 in the pilot program yields sufficient revenue after just one year to pay for the second phase of the project. The system then yields sufficient revenue each year to pay for the remaining phases. At each phase, additional enforcement equipment, enforcement personnel, and maintenance personnel are added as revenue can support them. At substantial completion, the system should yield between \$1,451,250 and \$2,176,875 in gross revenue. The system will require approximately \$500,000 in annual operating costs at completion, leaving substantial revenue available for future projects, upgrades, and expansions.

The meter selected for this project will be a single space smart meter with credit card, coin, and pay by phone capacity. Each meter communicates via a data connection to a cloud based data management system that supports meter and revenue management goals. The meter will also have capacity to accommodate remote price programming and complicated rate structures. The new meters will also be compatible with enforcement support technologies to further improve the efficiency of the limited enforcement staff.

An additional project outline was created for the Fondren Expansion option. This area has slightly different needs due to being a neighborhood center instead of a downtown. The meter selection remains the same for this section of the project, but it is recommended that the Fondren Expansion be equipped with

occupancy sensors and a fifteen minute free button. The fifteen minute free button is critical to maintain the convenience of access to neighborhood services like dry cleaning pickup and coffee without slowing the user down. The Fondren Expansion will require an investment of \$115,052 and will generate an estimated annual gross revenue of \$ 116,375 to \$174,563. The expected operating cost after first year is \$24,112.

This plan also outlines substantial policy and structure recommendations to allow for long term sustainability of the system. These include price structure changes that support the goals of the system. The price structure changes include a minimum rate change to \$1.00 per hour and exploration of Demand and Progressive Pricing models. The development of a leadership structure and a dedicated meter revenue fund are also significant policy recommendations. Additionally, a communications strategy for the system is essential for restoring public confidence and creating a cohesive brand.

This plan was put together by the City of Jackson Department of Planning, City Planning Division with the assistance of a work committee made up of individuals from Police, Finance, and Public Works.

Parking Meter Committee:

Letha Garrett- Office Manager, Infrastructure Management Division, Public Works

Commander Jesse Robinson – Commander, Traffic Unit, Police

Terry Williamson – Legal Counsel, Public Works

Felicia Young – Assistant Finance Manager, Administration

Jordan Rae Hillman, AICP - Deputy Director City Planning, Planning

Additionally, interviews were conducted with Parking Meter Maintenance and Parking Enforcement staff. The recommendations contained in this plan are based on the input from the committee and the staff that directly manage the parking meter system.

The Parking Enforcement Section from the Police Department handles enforcement. The section is located within the Traffic Enforcement Unit. The section is staffed by two Parking Enforcement Officers. These officers rotate through different coverage areas. They are unable to provide coverage to the entire zone on a daily basis. They currently issue approximately 15,500 tickets each year. Many of these tickets are issued to frequent repeat violators.

They are also limited in capacity by the tools they have access to. The Parking Enforcement Section no longer owns boots or has access to tow vehicles. Booting and towing are critical pieces of an effective enforcement program. The officers will need restored access to these tools to perform at a higher level.

3 Key Issues

There are many issues that are impacting the function of the on-street parking program. These issues include perception, availability, parking enforcement, meter management, signage and striping, revenue implications, parking fine collections, leadership, and policy.

These issues will be discussed in detail in the following sections. These issues are not occurring in silos. Each issue affects another section of the on-street parking program. Since the program is managed under the umbrellas of multiple departments, there is no single person responsible for the performance of the system.

3.1 Perception

The on-street parking program is most significantly impacted by a perception of ineffectiveness. Due to enforcement capacity, meter failures, ticket dismissal, and general lack of respect, the on-street parking program suffers from an assumption that it is low risk to park and not pay. Another issue is daily long term parkers who occupy essential on street spaces for the entire work day, disregarding the established time limit. This creates frustration with local restaurateurs and businesses who depend on parking turnover for customer access.

Parking meters are largely ignored, even when they are functional. Enforcement and maintenance staff have expressed that they believe the general public simply does not take the meter system seriously. They often describe individuals intentionally ignoring the meters, even in front of city staff due to the perception that the City will simply take no action. This is evident in the extreme downturn in collections, which is outlined in the Revenue Implications section of this document.

3.2 Availability

On-street parking availability is almost not existent during peak work day hours in prime areas. This is partly due to daily long term parkers disregarding the established time limit. This prevents the critical turn-over required to provide available spaces for short term parkers. Short term parking availability is critical to restaurant, service, and retail businesses that have customers and clients throughout the day.

The current system does not provide any data regarding individual meter use, time periods, etc. so it is impossible to give an accurate turn-over estimate. For a well-functioning system there should be 10-15% of spaces available in a given area during a normal day. If no spaces are available, the rate should be adjusted until it reaches a point that induces turn-over.

3.3 Parking Enforcement

Parking enforcement is currently staffed with two parking enforcement officers. These officers produce on average 15,500 parking tickets per year.

The officers face many challenges including the following:

- Inability to boot vehicles for repeat offenses. (Police Department no longer owns boots and Court Services is not currently generating a boot list from unpaid tickets.)
- Inability to have vehicles towed from tow away zones or for repeat offenses. (Not a policy decision, but a political perception based on past directives and a function of ticket processing).
- Incorrect or missing signage in specific areas. (Direction, Time, Conflicting Information, Handicap, etc.)
- Incorrect or faded striping.
- Malfunctioning meters.

- Enforcement officers are often not taken seriously due to perception issues.

Overall, it is evident that parking enforcement is one of the biggest puzzle pieces in putting together an efficient and profitable meter program, and currently the enforcement unit lacks the capacity to provide the level of enforcement needed. Meter failure is only a part of the system failure, rebuilding the enforcement division is the key to restoring the program to a financial status that can provide stable revenue for a parking enforcement team and meter maintenance long term.

3.4 Meter Management

The current meters have exceeded their recommended useful life, particularly since little investment has been made in extending their life. The Duncan Meter has a typical expected life span of twenty to twenty-five years. All of our meter stock has exceeded that and some of the stock is over thirty years old. These meters can still be repaired in very limited capacities, however, the meter locks that allow access to the internal parts are failing. Once staff can no longer operate the lock, they cannot make repairs to the unit head.

As stated previously, this section is staffed by a Parking Meter Maintenance Supervisor and a Parking Meter Collections Clerk. These individuals collect coin boxes, make repairs, remove jams, and perform general maintenance. They currently do not have any budget resources allocated to replacement parts. They make repairs with salvage parts or perform repairs that do not require additional parts.

This section is highly underutilized and has capacity to perform at a much higher level with resources. They are in a good position to support new meters when available, but are extremely limited in their current ability to improve the existing meter stock. This section desires to keep meter maintenance as an internal city service, and is prepared to spearhead new meter installation.

3.5 Signage and Striping

Signage and striping are an often forgotten component of an on-street parking program. Current city ordinance requires that a sign be present to enforce time limited parking, even at metered locations. The policy applies the same to both signed and metered parking. Parking enforcement staff provided an extensive list of areas in which they lack the proper signage or striping to be able to write valid tickets.

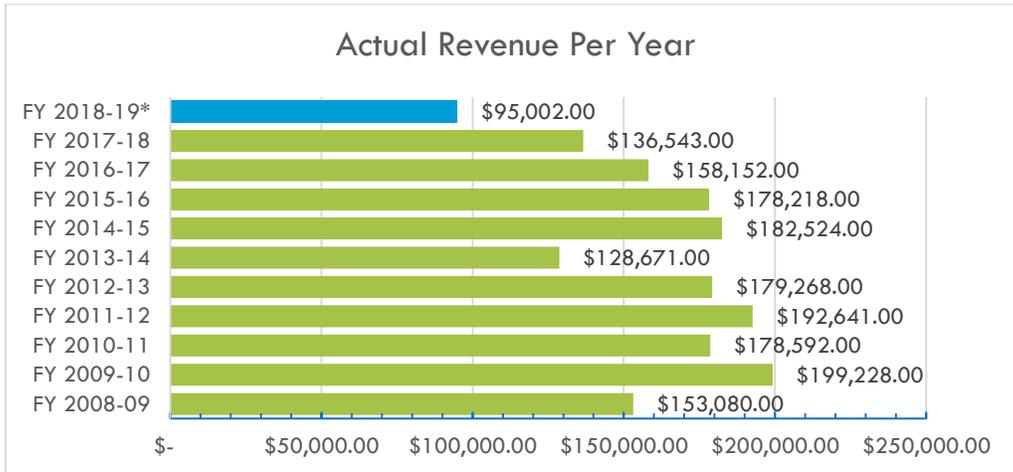
Overall signage and striping are some of the lowest cost parts of the on-street parking program, but they are one of the more difficult issues for staff to get resolved. For the future, resources should be dedicated to perform these essential maintenance related needs. In addition, policy changes can be made to streamline the ability of enforcement officers to ticket at the meter without additional signage.

3.6 Revenue Implications

Parking meter and enforcement revenue are critical components of building a sustainable on-street parking program. The City of Jackson's meter system has been producing subpar revenue for over ten years. See Table 3-1 Actual Revenue Per Year. Please note that FY 2018-19 is projected based on first quarter revenues.

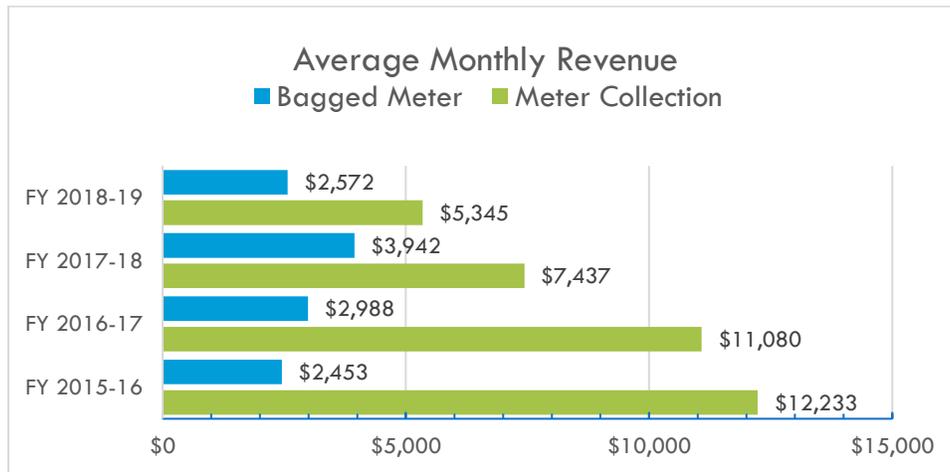
It is expected that FY 2018-19 revenue will be as low as \$95,002. In comparison, the city had \$466,205 in parking meter revenue in FY 2000-01. That is a revenue loss of over \$350,000 in twenty years.

TABLE 3-1



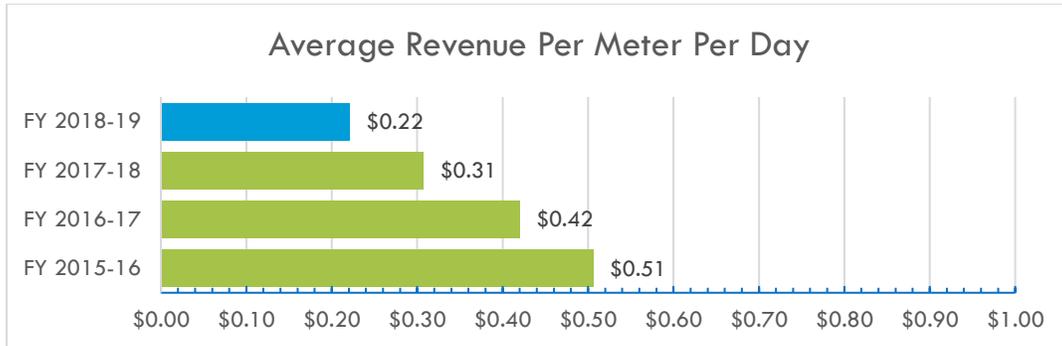
When collection deposits are broken down and explored month by month, it is revealed that the actual meter collection revenues (coins collected from meter) have decreased by 56% since FY 2015-16. Bagged (meter prepaid by contractor, special event, etc.) revenue has fluctuated, but remained relatively constant. See Table 3-2 Average Monthly Revenue.

TABLE 3-2



When the meter revenue is broken down into average revenue per meter per day, it is revealed that the average is less than \$0.50 per day. See Table 3-3 Average Daily Revenue per Meter. In FY 2017-18 the average revenue per meter per day was \$0.31. Meters are not being paid, even when they are functioning.

TABLE 3-3

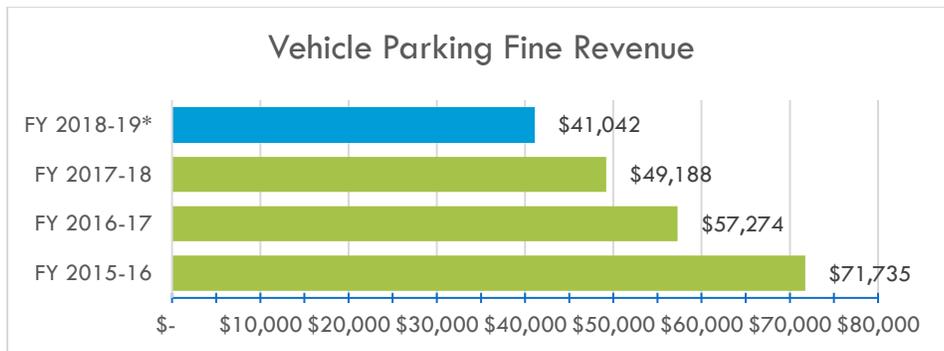


With current meter rates of \$0.50 per hour, meters should conservatively yield an average of \$2.50 per day, and could yield a maximum of \$5.00 per day during the enforcement period. Annual revenue should be upwards of \$725,000 conservatively assuming each space was occupied at least 50% of the enforcement period.

3.7 Parking Fine Collections

Parking fine collections are a major challenge. Currently officers are issuing 15,500 tickets per year, but collections have decreased drastically since FY 2015-16, averaging just \$55,000 per year. FY 2015-16 was the last year boots were used in the enforcement process. In FY 2017-18 there was an average of \$3.17 return for each ticket issued. Enforcement collections will need to be reconfigured in order to make any new system installed sustainable. See Table 3-4 Vehicle Parking Fine Revenue. Please note FY 2018-19 is projected based on first quarter.

TABLE 3-4



3.8 Leadership

Another challenge with the on-street parking program is that the program is not managed by any specific individual. Enforcement occurs through the police department, and meter maintenance occurs through public works. Neither section is looking at the revenue and enforcement performance in a holistic manner. Managers of each section hold widely expanded responsibilities beyond the on-street parking program. This is one of the key reasons that the program has declined so significantly over time. Removal of enforcement positions led to decreased revenue that led to the inability to reinvest in meter maintenance and technology.

As the program moves forward, planning for a cohesive management strategy will be important to maintaining sustainability. Even if the sections remain in their existing departments, creating a position that manages the system as a whole will be necessary. Long term, the creation of a parking authority or

parking division that contains all of the pieces would be ideal. This entity could further explore better utilization of all other City owned or City related parking resources including off-street lots and garages.

4 Policy Changes

4.1 Parking Rates

Current ordinance sets the parking meter rate at a maximum of \$0.50 per hour. This rate has been in place since at least the mid-nineties. A quick survey of parking prices in similar cities reveals that the current price per hour is substantially under the market.

Market Rates (for typical 2 hour meter):

- Memphis \$1.50 per hour \$0.50 Minimum Payment
- Birmingham \$1.00 per hour
- Little Rock \$1.00 per hour

4.1.1 Recommendation: Fee Change

A new base fee of \$1.00 per hour should be established, but the new policy should go further to provide greater pricing flexibility than a single fixed-rate across the entire system. There are multiple approaches to rate structures that can help achieve both revenue and availability goals. Demand Pricing and Progressive Pricing are the two structures that best fit the City's needs. These options can be used separately or in combination.

Demand Pricing – Establish minimum of \$1.00 per hour and a maximum of \$3.00 per hour rate structure. The public works director, traffic engineer, or some designee should have the authority to set rates within these amounts by block, time of day, and other considerations. Rates are then set based on a technical occupancy and revenue analysis to maintain one or two open spaces on each block face throughout the day. This is a demand based policy, high demand blocks have higher rates than low demand blocks.

This type of policy is used to achieve the following:

- Maintain adequate turnover of on-street parking spaces and reduce incidents of meter feeding in commercial districts;
- Encourage an adequate amount of on-street parking availability for a variety of parking users, efficient use of off-street parking facilities, and enhanced use of transit and other transportation alternatives; and
- Reduce congestion in travel lanes caused by drivers seeking on-street parking.

This type of policy change could also allow for premium hour pricing to be an option. Certain blocks that are not meeting turn-over goals can be priced at a premium during specific hours of the day. For example, if lunch time turnover is an issue, rates may be set at \$1.00 per hour during the early morning and late afternoon, and set at \$2.00 per hour during the prime lunch hour.

It is critical that these pricing decisions be made based on data. This is not possible with the current meters. However, new meter technology generates sufficient data to create an effective demand based pricing policy.

Progressive Pricing – Progressive Pricing policies can be used to induce turnover and simplify enforcement. Time-Limited is the current model utilized by the City and involves limiting parkers to 15 minute, 1 Hour, and 2 Hour time periods. In a progressive pricing model, as a vehicle remains parked for a longer period of time, the rate increases progressively instead of enforcing a hard time limit. Price is used at the motivator to induce parkers to turn-over the space quickly.

1- 2 Hour Time-Limited Parking Price Structure

- Consistent with current practice and the normal expectation. This was the only possible option with older mechanical meters that required manual price programming.
- Creates turn-over but depends on heavy enforcement presence.
- Time-Limited requires an enforcement officer to see if the car has paid and determine if the car has stayed over the time limit. This is difficult with limited enforcement staff without help from License Plate Recognition Software, Video, and Occupancy Sensors.
- Time-limited can accommodate demand based pricing structures where certain blocks or time periods that are in high demand charge higher prices for parking.
- Time-limited requires that the time limit be communicated via signage or marking on the meter.

Progressive Pricing Parking Structure

- Removes need to have enforcement officer track how long a vehicle has been in a parking place and instead graduates the price per hour based on how long the parking place is occupied.
- In lieu of a standard 2 Hour limit, the first 2 Hours are \$1.00 each, the 3rd Hour is \$2.00, and the 4th hour is \$3.00, etc.
- Price is used as the motivator to create turnover versus a time limit.
- Perceived as friendly to the customer, who may be willing to pay a premium for the convenience of on-street parking.
- Creates more revenue, but revenue will fluctuate more depending on seasonal issues, special events, etc.
- Enforcement officers can focus on payment, which can be seen at a glance with a drive by vs. tire chalking or license plate recognition efforts.

4.2 Enforcement Language

Current enforcement is largely based on the following section of municipal code:

Sec. 118-325. - Parking signs required. Whenever by this Code or any other ordinance of this city, or on a basis as determined by the city traffic engineer after an engineering and traffic investigation, any parking time limit is imposed or parking is prohibited on designated streets, it shall be the duty of the city traffic engineer to erect appropriate signs giving notice of such limit or prohibition, and no such regulation shall be effective unless signs are erected and in place at the time of any alleged offense.

This particular section of ordinance causes numerous tickets to be thrown out and should be rewritten to separately address metered and non-metered parking. Signage is important, but the meter head itself can communicate the time limit, payment, and other requirements. Curb marking and striping are also very effective communication tools, and should not be disregarded even if a sign may not be present.

4.2.1 Recommendation: Ordinance Update

Update the ordinance to provide more flexible enforcement options for specific parking types and communication methods.

4.3 Bagged Meter (Reserved Meter) Program

Current Ordinance allows for a bagged meter program:

Sec. 118-372 (d) Whenever parking spaces and their respective meters become inaccessible to the general public due to construction, renovation or any other special event, the party responsible for

such lack of use shall pay to the city \$5.00 per day per meter until such time as the meters again become accessible for use by the general public; provided, however, that a fee of \$2.50 per day per meter shall be due the city during a regular or special session of the state legislature for those metered parking spaces abutting the State Capitol grounds on North President Street, High Street, North West Street and Mississippi Street.

Currently the bagged meter program is being utilized more as reserved parking space program. There are individuals and companies that have simply requested meters to be bagged and reserved for any reason and any period of time that have received the service.

It is critical for construction and special events that a bagged meter program be available, however the service should have clear standards that do not allow individuals/companies to simply reserve personal parking spots. The convenience of having a meter bagged should also be reflected in the price being higher than the \$5.00 per day it is currently set at.

The new policy needs to reflect both scenarios:

- Scenario A - Parking spaces become unavailable due to construction or an event and the goal is simply making the revenue whole
- Scenario B – A special event or construction project requires reserved close proximity parking spaces. The price for bagged reserved spot should not only make the revenue whole, but also be priced with a premium for the convenience.

Additionally, State/County entities and other larger organizations make requests to reserve specific blocks as dedicated parking for their operations. This has already occurred in multiple blocks of the parking zone, but should be re-evaluated to ensure revenue is effectively being made whole and that the spots are serving the highest public need.

4.3.1 Recommendation: Ordinance Update

Update the ordinance to provide a more detailed bagged and reserved meter policy that takes in to account different types of reservation needs, the revenue implication of the action, the necessity of bagged meters, and the special needs of other governmental entities in the parking zone to create a fair and effective system.

4.4 Organization Structure

A considerable number of parking assets exist within the city and additional assets are being developed. No single person or group is the “go-to-person” with regard to pricing, meter collections, permits, enforcement, citations, capital improvements, policies, and public relations. From a management standpoint, this is not the most efficient system to manage parking and has contributed to the condition of the current system.

4.4.1 Recommendation: Organization Structure

The City should begin to take the proper steps towards developing a centralized parking operation in which all assets are controlled and managed under one leadership. The City should transition all of the assets under one roof with a singular focus on delivering parking options with a clear mission, strong leadership, and financial unity. This will also create a structure for implementing future parking initiatives including meter area expansion, neighborhood parking permits, capital improvement planning, etc. This new structure could also include managing any other off-street assets that the City owns directly or indirectly.

4.5 Financial Structure

Currently, the meter systems is funded through various portions of the general fund budget, and the parking meter revenue is returned to the general fund. There is no connection between the revenue, reinvestment in the system, and the budgeted resources. In order to create long term sustainability, the meter revenue has to be tied to both enforcement and maintenance.

This could be achieved through thoughtful budgeting, but in order to ensure the system's sustainability over time through changes in management and political direction, the system should be established as a dedicated fund. Excess revenue can be used for other projects, preferably related to the system (ADA Sidewalk Improvements, Parking Improvements, etc.), but only after the systems retains what is required to maintain adequate operation, maintenance, and reinvestment.

4.5.1 Recommendation: Financial Structure

The City should begin to take the proper steps towards developing a protected revenue fund for the meter program that ensures that the meter revenue is sufficiently reinvested in the system prior to being utilized for other general fund projects.

4.6 Enforcement Hours

It is reported that the hours of enforcement are not widely known by regular users. Creating clear enforcement hours is important. Over time, as enforcement capacity increases, certain zones may require additional hours of enforcement relative to demand.

4.6.1 Recommendation: Define Clear Enforcement Hours

Define clear enforcement hours and proactively communicate information regarding enforcement hours.

5 System Alternatives

5.1 Meter Technology

Meter technology has changed significantly over the past ten years. There are numerous metering options available ranging from single space mechanical meters, single space smart meters, multi-space kiosk meters, occupancy sensors, license plate recognition, and more. Each option has a best use scenario. The options are described below along with the advantages and disadvantages of each type.

5.1.1 Single Space Meter

Single space smart meters are the next generation of the mechanical coin meters that have been used by the City of Jackson in the past. Single space smart meters look very similar to the existing meters in style but expand the simplicity of a single head meter to include conveniences like credit/debit payments, smart phone payments, flexible parking rates, digital displays, and remote communication of meter status. Current generation smart meters can accommodate occupancy sensors that indicate the presence of a vehicle.

Cost: Single space smart meters range in cost from \$400-700 depending on ability to retrofit existing housing and poles. Typical data/data management services cost \$3.00-\$5.00 per meter per month.

Advantages:

- Single space smart meters are the most cost effective way to retrofit existing meter zones with existing housing and poles already in place.
- Single space smart meters offer the convenience of multiple payment options directly at the parking space and communicate clearly with the user.
- Enforcement officers can quickly glance at the indicator light to see if the meter has been paid or is expired.
- If a meter is disabled or broken, it does not affect the remaining meters.
- If a payment type is disabled, it does not affect the other payment options.
- Data is produced at the individual meter information for revenue and use tracking. If occupancy sensors are equipped, individual meter occupancy level can be directly tracked.
- Push maintenance information daily or in real-time.

Disadvantages:

- Each individual meter must have the coin box emptied, however credit card acceptance can reduce coin box collection frequency.
- Require specific pole placement and striping of parking spaces.

5.1.2 Multi Space Pay Stations

Pay stations are wirelessly networked kiosks for payment. Pay stations come in two primary types – Pay-and-Display and Pay-by-Space. With Pay-and-Display, motorist pay at the kiosk and place a receipt on their dashboard. With Pay-by-Space, motorists pay at the kiosk for a specific parking stall number/car tag number and do not need to return to their vehicle. Pay-by-Space is typically used in a parking garage or lot environment, with Pay-and-Display being primarily used for on-street parking.

Pay-and-Display Meters typically accommodate 10 to 30 parking spaces each. Motorist must park, walk to the meter, pay, and then return to the vehicle to display the receipt. These meters typically have lower maintenance cost, can hold a large amount of coins, and have easy installations. They are best suited for unstriped parallel parking.

Cost: Pay-and-Display Meters typically cost between \$10,000 to \$12,000 per unit.

Advantages:

- Striping is not required where used with parallel on street parking.
- Receipt is provided.
- Motorists cannot ride time from previous parkers, their individual receipt typically leaves with them.
- Pay stations can provide more information than individual meter heads.
- Maintain less parts inventory for repair needs.

Disadvantages:

- If station has a failure, revenue from all spaces is lost until repairs can be made.
- Enforcement is more difficult, officers must walk sidewalk to see the displayed receipt instead of the visual indicator on a meter head that can be seen from a vehicle.
- Station can be less convenient for the user, since the user must walk to the meter station and return to their vehicle before proceeding to their destinations.
- Stations can be overlooked to those unfamiliar with an area.
- Require receipt paper to be loaded regularly.

- Tracking individual space data and revenue is not possible.

5.1.3 Additional Features

Credit Card Payment - The convenience of credit card payments with modern smart meters increases the perceived value of the parking space. With credit card payments enabled, coin collection may not need to occur as often.

Mobile Payment- Mobile payment options allow the driver to pay from their phone with a few taps while still in their vehicle or while walking to their destination. A key feature allows the driver to receive alerts of time limits, add time remotely, and receive an emailed receipt.

Rate Setting – Conventional meters were limited in ability to provide flexibility with rates and times. Newer smart meters have the capacity to establish new rates and time limits remotely and quickly. Conventional meters require programming individually, smart meters can be programmed in groups. Additionally, smart meters can be programmed to accommodate Premium Pricing, Demand Pricing, and Special Event pricing.

Enforcement Support – Most smart meter systems coordinate with enforcement technology through mobile enforcement solutions that include a handheld enforcement management system and coordinate with handheld citation writers. Officers are equipped with real time information regarding meter status and can be guided to the most effective enforcement areas. With cloud based enforcement management, the enforcement process can be tracked and managed remotely including visual reporting, heat-mapping, and performance analytics.



Occupancy Data Capture (Sensor) – Occupancy sensor technology has improved rapidly over recent years. Earlier in street sensors did not have great adoption rates, but newer radar technology pole mounted sensors are making a strong effort. Pole mounted sensors that can communicate directly with the meter to indicate whether a vehicle is parked can greatly help enforcement efforts when enforcement is remote or limited. These sensors are still expensive and should only be used in remote parking areas where enforcement staff are unable to visit frequently, or in high value parking areas. These sensors require additional data plans in order to gain real time data for tracking movements.



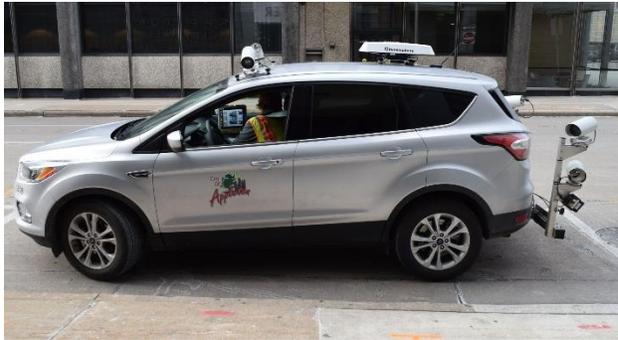
Data Management System – A data management system allows staff to see accurate information regarding each meter asset either in real time or updated each night. The meters can communicate their daily revenue, occupancy, and any failures to the system. Staff can create collection routes based on data indicating which meters actually need emptying and can create daily work order lists for meters that are malfunctioning. Daily revenue data can be used to establish, track, and adjust rate structures to help maintain the desired block turnover rate.



License Plate Recognition (LPR)

License Plate Recognition (LPR) technology uses digital cameras and lasers to perform vehicle recognition (size, shape and color) and combined with accurate GPS, automatically detects and notifies the parking enforcement officer of unmoved vehicles. Pictorial evidence is presented to the officer for violation assessment.

Parking enforcement productivity can increase significantly with LPR enforcement systems thereby allowing the enforcement officer more time for enforcing other high priority activities. It also allows enforcement regardless of weather conditions. Productivity gains can be significant, especially with the enforcement of time limitations as manual tire chalking is done automatically. Since chalking activities take a smaller proportion of the day, the officer has more time to perform other activities such as enforcing handicap and loading zones to minimize traffic hazards.



Some additional advantages of LPR systems are:

- System is capable of tracking vehicles with outstanding tickets, fines, warrants.
- Allows enforcement officers to monitor time limits and prohibits moving into an adjacent space.
- Allows a smaller enforcement staff.

Cost: LPR systems can be equipped at a range of prices from \$25,000 to \$50,000 per unit installed. They do have ongoing subscription and support fees. While initial cost is a hurdle, these units help keep labor costs down and can support a smaller enforcement team.

5.2 Choice of System

In traditional marked parking areas where meters are currently in place, it is recommended that the City of Jackson utilize single space smart meters with credit card and pay by phone capacity. The meters selected should accommodate remote programming of rates, and complicated flexible rate structures. Meters should also have a data management system and support enforcement activities through a direct software solution or third-party software solution.

If the parking zone is expanded in the future to include areas with unmarked parallel parking near the central core of downtown, Pay-and-Display options may be utilized for those areas.

6 Implementation Plan – Downtown Zone

6.1 Capitol Street Pilot (Immediate Action)

Capitol Street is currently part of the existing downtown meter zone and is recommended as the location for an initial pilot installation of new meters. There are approximately 150 meters in the recommended pilot zone. See Figure 6-1 for map of Capitol Street Pilot Area.

FIGURE 6-1



It is expected that the majority of the meters on Capitol Street can be retrofitted with new smart heads to fit existing housing and poles. Those with failed housing and poles will need to be replaced entirely.

6.1.1 Pilot Period

The pilot period should range from six months to one year, in order to generate sufficient revenue to fund the next phase of the implementation plan and provide ample time for evaluation of pilot pricing and enforcement initiatives.

6.1.2 Meter Technology

In the Capitol Street pilot area it is recommended that the City utilize single space smart meters with coin, credit card, and pay by phone payment options. The meters selected should accommodate remote programming of rates, and flexible rate structures. Meters should also have a data management system and support enforcement activities through a direct software solution or third-party software solution.

The IPS M5 Single Space Smart Meter is one example of a meter head that is retrofittable to the existing Duncan housing that meets the recommended requirements. There are also other options that can be explored through a competitive proposal process.



6.1.3 Pilot Enforcement Priority

During the pilot period it is recommended that the existing enforcement resources be prioritized to the pilot area. While they still need to have a presence throughout the entire system, to effectively evaluate the pilot, at least 75% of their time needs to be dedicated to the pilot area.

This is critical for both evaluation and reestablishing positive public perception and public confidence. New meters must be effectively enforced to generate the revenue for the remainder of the project's implementation.

During the pilot period it is also recommended that the enforcement team be provided access to both towing and booting authorities. Towing is a relatively no cost option, as the towed vehicle must pay the cost of the tow along with the enforcement fines. Boots will need to be purchased, however they are an extremely low-cost investment.



The cost of a new boot is approximate \$300- \$500 each. Court Services will need to reestablish the creation of a boot list from the unpaid ticket list. This is something that had been done in the past, but has not been done in recent years.

Additionally, if enforcement management software is available, a test unit should be purchased and evaluated during the pilot period. Ideally, the existing Brazos Ticketing Software, Court Services Software, and future enforcement management software can be coordinated to maximize automated data sharing.

6.1.4 Pricing Pilot

The price per hour should be raised to a minimum of \$1.00 per hour for newly installed meters. Existing meters are unable to be programmed to a new price, and will need to remain at current price until upgraded.

The pilot should also establish a portion of blocks with Progressive Pricing and a portion with the existing Time-Limited model. Demand pricing should also be utilized to further induce turn-over after initial evaluation. After the pilot period, the two models are to be evaluated for revenue generated, enforcement effectiveness, turn-over, and space availability.

6.1.5 Policy Changes

During the pilot period, the policy changes recommended in Section 4 should be implemented. These changes include adjusting existing ordinance language and creating a new bagged meter program in addition to the pricing recommendations above.

6.1.6 Expected Expenses

To achieve the pilot program, the expected Capital Outlay is \$82,500. That number can fluctuate based on bid price of selected meter heads, and ability to retrofit existing housing. Costs were estimated based on 66% of the existing meter housings being retrofitted and the remaining being replaced. Smart meters will also require a monthly per meter data fee. The data fees for the pilot project for a 12 Month period are estimated to be \$10,350. The pilot project can be installed with existing staff and will not require an outside contractor's assistance. The enforcement unit will need to purchase some new equipment to service the pilot area at an estimated cost of \$10,000. See Figure 6-2 for cost outline.

FIGURE 6-2

	Meters Replaced	Capital Outlay	Annual Data/DMS Cost	New Enforcement Equipment	New Enforcement Personnel	Total Outlay
Capitol Street Pilot	150	\$82,500	\$10,350	\$10,000	-	\$102,850

FIGURE 6-3

	Meters Replaced	Low Revenue Estimate	Medium Revenue Estimate	Total Outlay	Surplus Low	Surplus Medium
Capitol Street Pilot	150	\$187,500	\$281,250	\$102,850	\$84,650	\$178,400

The new revenue estimated for the pilot during a 12 month period is \$187,500 to \$281,250. The total cost of the pilot during a 12 month period is \$102,850, leaving a surplus of \$84,650-\$178,400 for the next implementation phase. See Figure 6-3 for Revenue Outline.

6.1.7 Meter Procurement

A Request for Proposals (RFP) will be the best procurement tool for the pilot project and future phases. A draft of this will be developed and attached to this plan.

During the selection process, meter providers should provide demonstration units to the city for evaluation. Meter maintenance staff shall test the ease and timeliness of installation and maintenance of the unit as part of the evaluation. It is critical that the product selected be fully maintainable by existing staff during the pilot period.

6.1.8 Evaluation

Monthly, Quarterly, and Annual performance indicators will need to be developed during the pilot period tracking revenue, availability, and enforcement. These factors will help make long term decisions regarding the permanent pricing model and the full conversion plan.

6.2 Downtown Conversion Plan

After completion and evaluation of the pilot program, the best practices developed shall drive a plan for conversion of the remaining meter heads in the downtown zone. The entire system can be conservatively converted based on additional revenue generation from the Capitol Street Pilot Project. It is recommended that the city utilize an incremental replacement plan based on revenue generation of the prior phase. The meter system can be replaced in increments of 250 units roughly aligning with collection routes during a five year period. See

Figure 6-4 and Figure 6-5 outlined the five year replacement plan, outlay, and revenue.

FIGURE 6-4

	Meters Replaced	Capital Outlay	Annual Data/DMS Cost	New Maintenance Personnel	New Enforcement Equipment	New Enforcement Personnel	Total Outlay
Capitol Street Pilot	150	\$82,500	\$10,350	-	\$10,000	-	\$102,850
2nd Year	250	\$137,078	\$27,600	-	\$20,000	\$32,000	\$216,678
3rd Year	250	\$137,078	\$44,850	-	\$75,000	\$32,000	\$288,928
4th Year	250	\$137,078	\$62,100	-	\$75,000	\$32,000	\$306,178
5th Year	261	\$142,084	\$80,109	\$35,000	\$75,000	\$32,000	\$364,193
Total Conversion	1161	\$635,818	\$225,009	\$35,000	\$255,000	\$128,000	\$1,278,827

FIGURE 6-5

	Meters Replaced	Low Revenue Estimate	Medium Revenue Estimate	Total Outlay	Surplus Low	Surplus Medium
Capitol Street Pilot	150	\$187,500	\$281,250	\$ 102,850	\$84,650	\$178,400
2nd Year	250	\$500,000	\$750,000	\$ 216,678	\$283,322	\$533,322
3rd Year	250	\$812,500	\$1,218,750	\$ 288,928	\$523,572	\$929,822
4th Year	250	\$1,125,000	\$1,687,500	\$ 306,178	\$818,822	\$1,381,322
5th Year	261	\$1,451,250	\$2,176,875	\$ 364,193	\$1,087,057	\$1,812,682

At the end of the system conversion, the potential revenue expected ranges from \$1,451,250 to \$2,176,875. The estimate has a wide range due to the potential revenue implications of the selected price structure. It is estimated that the system will need a minimum of \$475,609 in addition to current funding per year to sustain maintenance, data, additional enforcement personnel, and additional maintenance personnel. This revenue model leaves substantial revenue on the table for expansion projects, larger maintenance replacement projects, vehicles, salary improvements, etc. Further, during years where capital costs are lower, this revenue could be used to make sidewalk, ADA, striping, signage, and decorative pole improvements within the parking zone.

6.3 Budget Implications

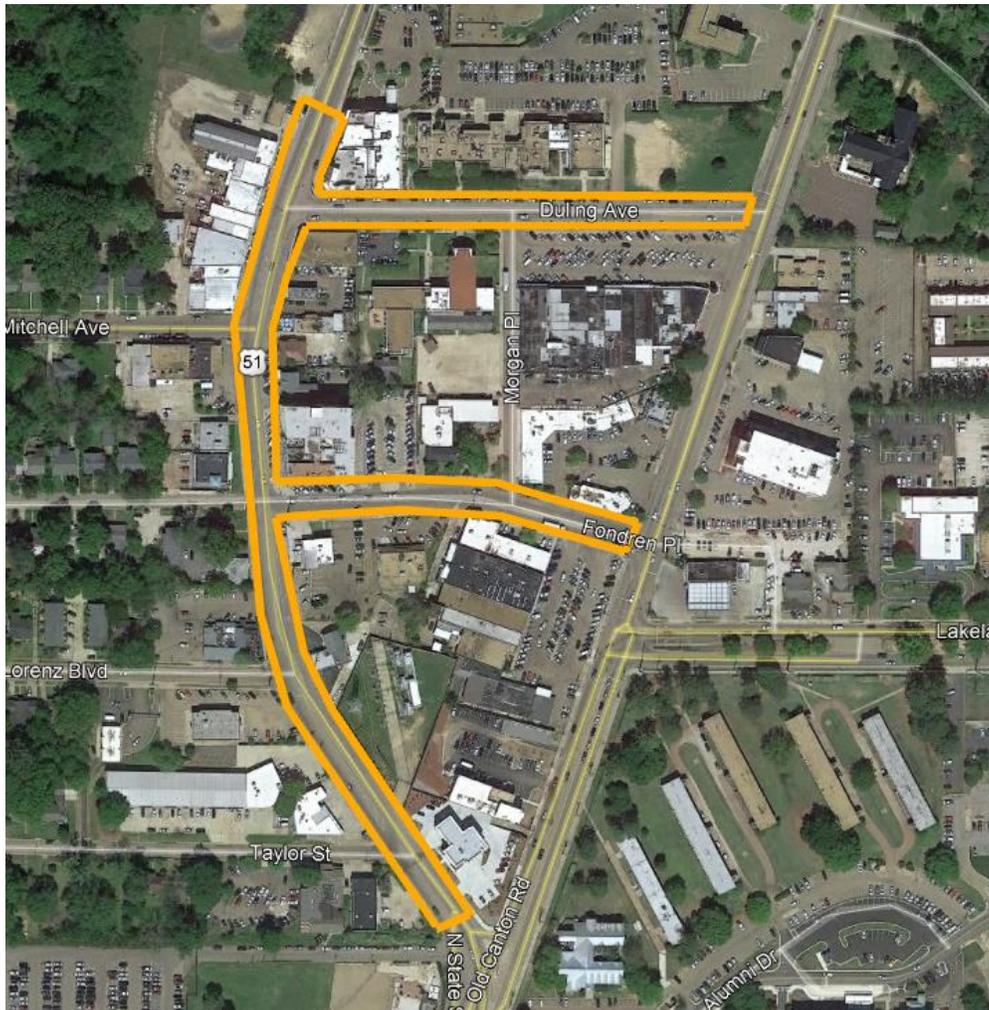
If completed as proposed, it will be critical that revenue created from the parking system be recycled back into the system until it is stable. It will eventually create actual surplus revenue, but that revenue should be allocated back to the system at level to keep adequate personnel, adequate maintenance and replacement budgets, and reinvestment in the system.

It is further recommended that Parking Meter fund be established to streamline the protection of this revenue so that the system can be sustainable long term.

7 Implementation Plan – Fondren Expansion

The Fondren Expansion area consists of 98 spaces that would be eligible for metering. These spaces are primarily located on North State Street between Fondren Place and Hartfield, Duling Street and Fondren Place. Fondren primarily desires parking turnover as a result of parking meter implementation. Fondren has also expressed consideration for quick neighborhood trips for coffee, dry cleaning, bakery, etc.

The neighborhood services function of Fondren neighborhood is very different from the Central Business District/Downtown Zone and will require a slightly different approach.



7.1.1 Policy for Fondren Meter Introduction

The Fondren area will benefit from all of the policy changes introduced in the downtown zone, but will require an additional policy. In the Fondren District there is a need for short term parking be utilized at a high convenience level. To achieve this, it is recommended that the Fondren meters be equipped with a first 15 minutes free button.

The 15 minutes free button enables turn-over and quick trips to the neighborhood services located in the Fondren District. The user is quickly able to hit a button, run into the business, and get back to the vehicle with no additional inconvenience. In order to make the 15 minute free button functional, an occupancy

sensor will need to be equipped so that a user cannot take advantage of repeatedly pushing the grace button.

Time-Limited parking signage is being installed in Fondren at the time of printing of this plan. This signage designates a handful of 15 Minute time limited spots, along with 2 Hour Time Limited spots. The success of the signage initiative should be evaluated before implementing the meter expansion.

If the Fondren project is completed simultaneously to the Capitol Street Pilot, the same pricing structure pilot needs to be tested in Fondren. If the Fondren project is completed after the Capitol Street Pilot, the best practices developed during that pilot will need to apply to the Fondren District with the addition of the 15 minute grace period.

7.1.2 Public Meeting

Prior to introducing a meter system into Fondren, it will be important to present the approach to the neighborhood for input and explanation. The recommendations in this plan accommodate the concerns that the committee was aware of during the creation of this plan, but does not constitute a true public input process.

7.1.3 Meter Technology

The same meter technology selected for the Capitol Street Pilot is recommended for Fondren with the exception that the occupancy sensor must be integrated in the Fondren Pilot due to its remote location from the enforcement area. The Fondren Expansion will also require installation of new poles and housings. The meters should be mounted in double yoked configuration, meaning two meter heads are mounted to a single pole. This will reduce sidewalk clutter.

7.1.4 Expected Expenses

To achieve the Fondren Expansion, the expected Capital Outlay is \$100,940 with a occupancy sensor equipped meter system. This included estimation for meters, housings, double yokes and poles. The data fees for the Fondren Expansion for a 12 Month period are estimated to be \$14,112. Data fees are higher due to the occupancy sensor integration. The Fondren Expansion project will require assistance from other public works divisions to install new poles, or the assistance of an outside contractor. The meter heads can be installed by the in-house team. See Figure 7-1 for cost outline.

FIGURE 7-1

	New Meters	Capital Outlay	Annual Data/DMS Cost	New Maintenance Personnel	New Enforcement Equipment	New Enforcement Personnel	Total Outlay
Fondren Pilot w/ Occupancy Sensor	98	\$100,940	\$ 14,112	-	-	-	\$115,052

FIGURE 7-2

	New Meters	Low Revenue Estimate	Medium Revenue Estimate	Total Outlay	Surplus Low	Surplus Medium
Fondren Pilot W/ Occupancy Sensor	98	\$ 116,375	\$ 174,563	\$ 115,150	\$ 1,225	\$ 59,413

At the end of the Fondren Expansion, the potential revenue expected ranges from \$116,375 to \$174,563. The estimate has a wide range due to the potential revenue implications of the selected price structure. The estimated annual operating costs for the Fondren Expansion are \$24,112.

8 Communication Plan and Branding

As part of the Capitol Street Pilot, an extensive communication strategy will need to be developed to educate the public regarding the new meters, and pricing policies. This is also critical to reestablishing public confidence and identity.

As part of the communication strategy, a dedicated web presence needs to be developed outlining as much information about the system as possible including a FAQ page with dedicated contacts for parking questions.

Branding should also be developed so that as signage, communication efforts, and web presence are established the system is branded cohesively. The meters themselves can be opportunities for branding presence.

9 Summary of Recommendations

9.1 Goals of Parking Program

- Create 10-15% parking availability (85% Occupancy)
- Create revenue sufficient for long term meter program sustainability
- Create public confidence in effectiveness of the system
- Create positive public perception of the system
- Create clear communication of policies and expectations

9.2 Downtown Parking Zone

9.2.1 Five Year Conversion Implementation

- Year 1 – 150 Meter Pilot Program, Enforcement Equipment Added
- Year 2 – 250 Meters Replaced, Enforcement Equipment Added, Enforcement Personnel Added
- Year 3 – 250 Meters Replaced, Enforcement Software Added, Enforcement Personnel Added
- Year 4 – 250 Meters Replaced, Enforcement Equipment Added, Enforcement Personnel Added
- Year 5 – 261 Meters Complete Meter Replacement, Enforcement Equipment Added, Enforcement Personnel Added, Maintenance Personnel Added

9.2.2 Meter Selection

- Recommended selection of a single space smart meter with the following functions:
 - Credit Card Payment
 - Mobile Payment
 - Remote Rate Adjustments
 - Flexible Pricing Capacity
 - Enforcement Support Software
 - Occupancy Data Capture (Sensor) Capability
 - Data Management System
- The IPS M5 Meter Head can be retrofitted to the existing Duncan housing system and is an example of one brand of meter head that meets the standards desired. Other options can be explored through a competitive procurement process.
- It is expected that this meter conversion can be performed by in-house staff with some support for replacement of poles from other divisions or outside contractors.



9.2.3 Capitol Street Pilot Program (Downtown Zone)

- A 150 meter pilot program should be completed during year one of the conversion plan.
- The 150 meter pilot program should be on Capitol Street due to the highest occupancy, highest visibility, and amount of renovation/reinvestment that is occurring.
- During the pilot program the pilot should include blocks with Time-Limited parking and also blocks with Progressive Pricing in lieu of time limited to evaluate the most effective method of inducing turn-over.
- During the pilot program, the two existing parking enforcement officers shall make the pilot area their primary focus for enforcement spending 75% of their time in the pilot area.
- Data from the Data Management System shall be used to track key performance indicators each month to examine revenue trends and overall system performance.

- At the end of the pilot program, a decision should be made based on data regarding Time Limited vs. Progressive Pricing.

9.2.4 Expected Pilot Expenses

- Initial Investment Capitol Street Pilot (12 months) – \$102,850
- Initial Revenue Capitol Street Pilot (12 months) – \$ 187,500 to \$281,250
- Initial Surplus for Reinvestment – \$84,650 to \$ 178,400
- The expected revenue within one year of the pilot program is approximately \$187,500 to \$281,500 leaving substantial revenue available for reinvestment in long term plan.

9.2.5 Year 2 through 5 Expenses

- Use pilot revenue to implement Years 2-5 in 250 Meter increments.
- Each 250 Meter increment requires an outlay of approximately \$200,000 to \$300,000.
- Each 250 Meter increment in combination with prior year(s) implementation yields sufficient revenue to fund next phase.
- Each year additional enforcement staff, maintenance staff, and enforcement technologies are integrated in the operating costs until the system is rebuilt to a sustainable management level.

9.2.6 End of Year 5 Revenue & Cost Estimate

- After system completion, annual meter revenue is expected to range between \$1,451,250 and \$2,176,875 depending on pricing structure decisions and enforcement effectiveness.
- Long term the system will need to reuse at least \$500,000 of the revenue for operating costs.
- Additional reinvestments from the revenue will need to be made to plan for future capital expenses including ongoing system upgrades and replacements.
- Surplus revenue can be reinvested in the system as needed, and when not needed for the system used to invest in sidewalk, ADA compliance, striping, and other projects related to success of the parking system.

9.2.7 Policy Changes

- Pricing Structure immediately changed from \$.50 per hour to \$1.00 per hour on all newly installed meters.
- Pricing Structure changed to allow pilot testing of Demand and Progressive Pricing Structures.
- Revise ordinance language to provide more flexible enforcement options for specific parking types and communication methods instead of the sign requirement.
- Revise Bagged Meter program to reflect current needs and pricing.
- Take steps toward developing a centralized parking division in which all parking related assets are managed under one leadership.
- Take steps toward creating a dedicated parking fund to ensure long-term sustainability of the meter program.
- Define clear enforcement hours.

9.2.8 Communications Strategy

- Provide a communication plan for new system launch, to explain pilot program initiatives, and restore public confidence.
- Create a dedicated website outlining system information and FAQ's regarding the parking system.
- Establish parking branding for cohesive signage and communication efforts.

9.3 Fondren Expansion

9.3.1 Fondren Expansion Alternative

- The Fondren Expansion area consists of 98 spaces that would be eligible for metering.
- Fondren primarily desires parking turnover as a result of parking meter implementation. Fondren has also expressed consideration for quick neighborhood trips for coffee, dry cleaning, bakery, etc. type pick up.

9.3.2 Meter Selection

- The Fondren Expansion will use the same meter as the downtown meter zone, but two meters will be mounted per pole.
- The Fondren Expansion will also utilize occupancy sensors due to remote enforcement location.

9.3.3 Expected Fondren Expenses

- Initial Investment Fondren Expansion (12 months) – \$115,052
- Initial Revenue Fondren Expansion(12 months) – \$ 116,375 to \$174,563
- The expected operating cost after first year – \$ 24,112

9.3.4 Fondren Expansion Policy

- Fondren Expansion shall benefit from the same policies at the downtown parking zone.
- In the Fondren District there is a need for short term parking be utilized at a high convenience level. To achieve this, it is recommend that the Fondren meters be equipped with a first 15 minutes free button.

Exhibit A: Meter Replacement and Revenue Model

Downtown Zone											
	Meters Replaced	Capital Outlay	Annual Data/DMS Cost	New Maintenance Personnel	New Enforcement Equipment	New Enforcement Personnel	Low Revenue Estimate	Medium Revenue Estimate	Total Operating Costs	Surplus Low	Surplus Medium
Capitol Street Pilot	150	\$ 82,500	\$ 10,350	-	\$ 10,000	-	\$ 187,500	\$ 281,250	\$ 102,850	\$ 84,650	\$ 178,400
2nd Year	250	\$ 137,078	\$ 27,600	-	\$ 20,000	\$ 32,000	\$ 500,000	\$ 750,000	\$ 216,678	\$ 283,322	\$ 533,322
3rd Year	250	\$ 137,078	\$ 44,850	-	\$ 75,000	\$ 32,000	\$ 812,500	\$ 1,218,750	\$ 288,928	\$ 523,572	\$ 929,822
4th Year	250	\$ 137,078	\$ 62,100	-	\$ 75,000	\$ 32,000	\$ 1,125,000	\$ 1,687,500	\$ 306,178	\$ 818,822	\$ 1,381,322
5th Year	261	\$ 142,084	\$ 80,109	\$ 35,000	\$ 75,000	\$ 32,000	\$ 1,451,250	\$ 2,176,875	\$ 364,193	\$ 1,087,057	\$ 1,812,682
	Total Meters	Maintenance Expenses	Annual Data/DMS Cost		Enforcement Equipment	Enforcement Personnel	Low Revenue Estimate	Medium Revenue Estimate	Total Operating Costs	Surplus Low	Surplus Medium
Completed Revenue	1161	\$ 63,500	\$ 80,109	\$ 65,000	\$ 75,000	\$ 192,000	\$ 1,451,250	\$ 2,176,875	\$ 475,609	\$ 975,641	\$ 1,701,266
*Assuming 66% retrofit, 33% full replacement. Assumes enforcement period of 250 days 8 to 5 PM, assumed mininum fee change to \$1.00 per hour, existing 2 maitenance employees											
New Fondren Zone											
	New Meters	Capital Outlay	Annual Data/DMS Cost	New Maintenance Personnel	New Enforcement Equipment	New Enforcement Personnel	Low Revenue Estimate	Medium Revenue Estimate	Total Operating Costs	Surplus Low	Surplus Medium
Fondren Pilot	98	\$ 72,030	\$ 6,762		-	-	\$ 116,375	\$ 174,563	\$ 78,792	\$ 37,583	\$ 95,771
Fondren Pilot with Occupancy Sensor	98	\$ 100,940	\$ 14,112		-	-	\$ 116,375	\$ 174,563	\$ 115,052	\$ 1,323	\$ 59,511
	New Meters	Maintenance Expenses	Annual Data/DMS Cost	New Maintenance Personnel	Enforcement Equipment	Enforcement Personnel	Low Revenue Estimate	Medium Revenue Estimate	Total Operating Costs	Surplus Low	Surplus Medium
Completed Revenue	98	\$ 7,500	\$ 6,762		-	-	\$ 116,375	\$ 174,563	\$ 14,262	\$ 102,113	\$ 160,300.50
Completed Revenue with Occupnacy Sensor	98	\$ 10,000	\$ 14,112		-	-	\$ 116,375	\$ 174,563	\$ 24,112	\$ 92,263	\$ 150,450.50
* Assumed all new meters, double yoked, with 15 minute grace option on a subset of meters, assumed mininum fee change to \$1.00 per hour, existing 2 maitenance employees											