City of El Paso

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Project #1: Parks and Recreation Permitting Process

The City of El Paso compromised to deliver outstanding services to support a high quality of life for residents, businesses and visitors. One of their strategic goals is to set the standard for sound governance and fiscal management along with create innovative recreational, educational and cultural programs.

The Situation

Processing a park and recreation outdoor space permit was taking a long time, affecting cost and customer satisfaction.

The median time for processing a park and recreation permit was 16 days and the cost associated with it was $214. The process started with a customer requesting a permit either by email, fax or in person and ended with the customer receiving the permit.

For the City of El Paso, the voice of the customer is priority, so they decided to involve one of their most frequent permit applicants (customer) to the project to provide feedback and to be part of the solution.

“As a customer, my experiences in the Parks and Recreation permitting process had always been somewhat complicated. The process was extremely lengthy and stressful. I was invited by Ms. Paula Powell to be a part of this team. I'm very glad the city is interested in what the customer has to say and how we feel when it comes to these issues. I'm honored to represent our community because we have waited a long time for something like this to happen; changes that will positively impact our experiences when it comes to obtaining a permit. It's great to see such improvements and progress moving further into this technological era.

Once again thank you for inviting me, it has been a learning experience and I am very happy to be a part of the solution. “

~Teresa Sosa, team member and customer

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The Solution

By applying the Lean Six Sigma methodology, there was more than a 93% reduction in processing time!

With a dedicated team the goal of reducing the processing time was successfully achieved. Some of the tools used through the DMAIC process were the SIPOC map, statistical data analysis, detailed process maps, time studies, cause and effect diagram, and mistake proofing.

The team brainstormed and carefully analyzed the possible causes of the problem allowing them proposed, prioritized and evaluated solutions ideas. The top solutions included: elimination of unnecessary steps in the process, the development of specific site maps with identifiable areas for rental, designate areas for park rentals, and a new online application.

After piloting and fully implementing the solution, the time for processing a permit substantially reduced from a median of 16 days to only 1 day, and in consequence the cost reduced from $214 per permit to $13.40, representing an estimated annual saving of $32,165. The replication opportunities identified were for other similar types of permits that include: concession permits, special event permits involving outside departments, film permit, independent league permits, shelter permits and tournament permits.

The lessons learned from the team after participating in this project were:

- Communication is essential
- Teamwork works
- Meeting, deadlines and to-do lists need to be followed through
- Technology needs to be used to its fullest
- You have to have an open mind to accept changes
- Management support is of utmost importance

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Project #2: Asphalt Repairs

The City of El Paso is compromised to deliver outstanding services to support a high quality of life for residents, businesses and visitors. One of their strategic goals is to enhance and sustain infrastructure network along with promote excellence in land use and the visual image of El Paso.

The Situation

Inconsistent production from asphalt repair crews.

The way the process for asphalt repairs was being performed was inconsistent, affecting costs and public service.

The top problems identified were:

- Excessive daily travel times picking up material and traveling to work sites consuming too much of the work day, driving fuel costs and wearing down equipment.
- Excessive internal data processing requirements; spent too much time accumulating and verifying data that had no value.
- Underutilizing employees; travel and data management burdens took away their opportunity to repair more potholes.
- Inconsistency and lack of standardization.

The expectation was to improve the service, reduce the pothole repair time, and to save money, an estimation of $560,000 annually.

The Solution

By applying the Lean Six Sigma methodology, the goals were not only achieved but exceeded!

A team of nine individuals was strategically selected to work on solving this problem. And by following the Lean Six Sigma process, it was possible to find a better way to do the asphalt repairs.

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Four major opportunities were identified as the most important:

1.) **Mobilization** – a) Identify multiple pick up sites and multiple raw material suppliers to limit travel distance; b) Redraw the city zones to reduce travel time rather than fix potholes by when the work order was entered. This would cause the crews to spend less time driving and more time fixing potholes

2.) **Data Management** – Stop burdening crews with tracking unimportant data and focus on most relevant data with a standardized measuring method and the use of portable tables. This would reduce work hours on asphalt repair work orders.

3) **Task Process** – Standardize work among all crew to fix potholes by creating operating procedures and providing proper training.

4) **Employee Feedback** – Address program concerns identified by the work crews. The team generated additional improvement ideas that included: equipment, materials, people, training, quality and the communication system.

After piloting and fully implementing the proposed solutions, the results were remarkable. The total saving cost was estimated to be $560,000 USD per year, the weekly pothole repairs increased by 40% (from 200 per week to 280 per week), the production rate increased by 24%, and the reduction of employee data management in work hours was of 50%.

By applying Lean Six Sigma methodology they were able to lower the cost associated with the pothole repairs, increase the volume of asphalt repairs, and save time and effort on data management. These results impacted directly the public and also employee satisfaction and morale.

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Project #3: Irrigation Repair

The City of El Paso is committed to deliver outstanding services to support a high quality of life to residents, businesses and visitors. One of their strategic goals is to set the standard for sound governance and fiscal management to nurture and promote a healthy and sustainable community.

The Situation

The time involved in completing irrigation work orders was taking too long resulting in high cost.

The time involved in completing irrigation work orders was taking 24 hours and the average cost per work order (in man hours) was $297.36. This was negatively affecting not only the Park & Recreation Department but also the environment because it was reducing the capacity of servicing other affected areas.

The City of El Paso strongly believed that by using the Lean Six Sigma methodology, it was possible to achieve, and most importantly, to sustain significant and positive results.

The Solution

By applying Lean Six Sigma methodology the results were substantial and impressive!

A Pareto analysis showed that 70% of all work orders were related to heads and valves, so the efforts of the project were focused on those repairs.

The top solutions included:

- Implement the 5S method to standardize the stock vans, corrals and warehouse
- Establish satellite storage areas to decrease travel time
- Use a groundskeeper as a “runner” working with the material supervisor
- Redraw boundaries for all (4) corrals to reduce travel time

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Other improvements included process simplification, the generation of standard operation procedures, and the establishment of inventory control points and re-order points for supplies.

The initial goal was to reduce the repair time and consequently the cost per work order by 33%; the ultimate results far exceed the expectations resulting in a reduction of 92%! The time to process an irrigation repair work order was reduced from 24 hours to only 1.81 hours and the cost per work order decreased from $297.36 to $22.40, accounting for an estimated annual cost avoidance of $78,089 in payroll costs.

This was just the beginning of the continuous improvement journey at the City of El Paso, since Lean Six Sigma can be used across multiple departments.

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