

Issues and Challenges of Obtaining New Public Works Maintenance and Operations Facilities

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As a public works leader, you face a multitude of challenges. Recruiting and retaining quality staff, meeting service expectations, protecting your facility and equipment investments; all present challenges. Efficient, safe, sustainable, and well-designed maintenance and operations facilities are key to meeting these challenges head on. But how can you get such facilities? By making three steps a priority:

- Using Pre-Design Planning
- Asking for Realistic Funding
- Addressing Your Design Challenges

Using Pre-Design Planning: Needs Assessment, Site Selection, and Master Planning

An effective needs assessment, thoughtful site selection, and comprehensive master plan are critical first steps in a successful project. They not only ensure you are requesting appropriate funding, but also save you design dollars and future operational costs.

- A comprehensive understanding of your needs means your new facility will be the right size for today's operations as well as tomorrow's expansion of staff, fleet, and operations.
- Location, site size, neighbors, and access all impact your long-term operating costs. A new facility poorly located can increase costs if crew deadhead mileage and response times increase; neighborhood complaints are costly to mitigate and can create political ill will within the community. But a successful site selection can effectively drive down your costs while benefitting the community.
- An effective master plan establishes a roadmap for future facility development. The master plan and accompanying conceptual design documents provide a realistic facility cost, enabling you to make your funding request with confidence.

Asking for Realistic Funding

Funding any program or capital project in today's economy can be difficult. Lower tax revenues lead to uncertainty in funding even the most basic services. Understanding and using all your viable options can mean the difference between success and failure.

The City of Chula Vista, California (featured as a case study in *APWA 2005 Click, Listen, & Learn - Blueprints for Public Works Yards*) used a combination of development impact fees, grants, and transit federal funding to purchase an existing facility no longer used by a large utility company. The city then hired a design team with experience in public works facilities to help transform the site into a

consolidated service center. Since the City also operated the local transit system, plans were made to incorporate that system into the new facility and, as a result, they were able to secure federal funding for the construction of transit-specific elements. The new facilities were justified through significant savings in the following areas:

- lowering deadhead mileage
- ownership and operation of City owned fueling facilities that included both diesel fuel and Compressed Natural Gas (CNG)
- increased life and availability of rolling stock through better maintenance

Their approach was successful. By being creative and understanding their funding opportunities, the City was able to fully fund the project. The resulting facilities now save taxpayer dollars and help the City provide better service to citizens – all without asking those citizens for more taxes.

A more conventional, and the most common, approach to funding is the use of municipal bonds. The ability to raise necessary capital by issuing bonds is and will remain a mainstay of the public facility funding approach. Issuing bonds to fund projects works because the face value, or principal amount of the bond, is repaid through fixed payments, allowing the City to build now and pay over time. Municipal bonds can be an attractive investment vehicle because the interest income generated is exempt from federal income tax and often state and local taxes as well. Important to know is that the value of municipal bonds necessary for large projects and acquisitions often requires taxpayer approval through a ballot initiative. As such, key to the success of this approach is ensuring the public is well-informed and understands that the initiative represents investment in projects that have an impact on their daily lives, including schools, highways, hospitals, housing, and sewer systems.

“According to the Associated General Contractors of America trade group - in the 2008 election cycle, some 16 statewide ballot measures across 12 states asked for voter approval of nearly \$12.2 billion in bonds and tax increases to finance infrastructure projects -- mostly transportation and water projects, but also libraries, hospitals and schools. Local jurisdictions sought approval of many billions more in various municipal bonds issues around the nation.” AGC, 2008.

The City of Fort Worth, Texas used a unique developer-led approach to obtain their new facilities. The City entered into an agreement with a local developer and the GSA to provide a new facility on GSA property slated for redevelopment. The developer, in turn, partnered with a General Contractor and an experienced public works facility design team to provide the City a new Public Works Service Center. The former public works yard was also slated for redevelopment and with its location in an area near the Cultural Center and the historic Will Rodgers Coliseum was thought to be a great area for new retail, office, and residential units. The profit potential was there for the developer and the City would ultimately realize new tax-generating improvements – a win-win-win scenario. While this type of arrangement is not available for every city or agency, it does represent a new funding trend – public agencies working with private entities willing to invest in facilities and infrastructure. Along the same

funding lines is a similar approach and that is gaining appeal in the public works community is a basic public/private partnership where a private investor funds the design and construction of the facility and the investor is repaid through a long term lease back arrangement with the public agency.

The secret to getting the funding you need is the data you have to support your request. Budget requests for capital investment in maintenance and operations facilities often include little justification and are underestimated. Elected councils, board, and officials are under pressure to present realistic budgets that can be justified in taxpayers' eyes and that will work. There's a common thread across public works leaders that have been successful in securing funding and support for new facilities – they justified their request with realistic data.

Addressing Your Design Challenges

Today's facilities aren't the garages or public works yards of 50 years ago. Modern public works maintenance and operations facilities are high-tech and can be models of efficiency. An effective facility design:

- Increases efficiency of onsite maintenance tasks (fleet maintenance and other)
- Optimizes onsite storage in designated warehouse, yard, or shop-based storage areas
- Decreases retrieval times
- Increases security
- Creates safe, flexible work environments that can easily be adapted for new or modified tasks
- Incorporates successful design solutions from similar facilities

Public works maintenance and operations facilities, by their very nature, are multi-functional and diverse workplaces. Your facilities and crews often support multiple public services. Proactively addressing six major facility decisions will help you make your project successful:

- **Vehicle Maintenance Facility Layout.** Should your facility be designed in a double or single loaded configuration? Repair bays: drive-through or pull in/back out? Should internal circulation of vehicles be considered? There are no standard answers. Rather, the best vehicle maintenance facility design tailors the layout to your situation, including site shape, site access, geographic location, fleet makeup, available budget, and your operational preference.
- **Proper Repair Bay Sizing.** A logical approach to repair bay sizing works best. Large vehicles and equipment require more space and smaller vehicles require less. Some users prefer a facility with all large bays for flexibility; others prefer a more dedicated bay sizing approach which could result in building less shop area but with less flexibility. Understanding your specific operational requirements is key.
- **Fuel Islands.** You'll want your fuel island design to accommodate the varying configuration of your fleet. Consider your fuel types and fuel port locations along with the height and effectiveness of any canopy structures. The ability of vehicles to maneuver through the fuel

Island must also be considered along with the selecting the most appropriate storage and dispensing systems to support your operation.

- **Vehicle and Equipment Wash Bay.** One of the most debated elements in designing a facility is the Wash Bay. Opinions on the best vehicle and equipment washing approach vary and all have merit. Some users prefer touchless automated wash systems; others prefer a mix of both high volume hoses and high pressure washers. What is most important is your drainage system design and its ability to effectively capture and dispose of the solids washed from your vehicles and equipment.
- **Site Circulation.** Public Works maintenance and operations facilities require specific and functional circulation paths to operate efficiently. Large trucks (some with trailers) must be able to turn into parking stalls and repair bays. Circulation through the fueling and equipment wash areas should allow for queuing of vehicles waiting to be washed or fueled. Main vehicle traffic paths should not pass overhead doors of the fleet maintenance building to avoid possible conflicts with vehicles and equipment entering and exiting the building.
- **Safety.** Creating a safe work environment spans all aspects of facility design. Safety hinges on proper site circulation, well-placed lighting and security cameras, clear pedestrian paths inside and outside your building, proper work zones around shop equipment and in work bays, appropriate ventilation systems to meet OSHA requirements, and organized spaces with designated storage areas.

Sustainable Design

You have many opportunities to incorporate sustainable design features in your facility. In the past decade many maintenance and operations facilities have been designed and constructed as energy efficient and sustainable structures, even with physical building challenges such as overhead doors and large volumes of space. Modern facilities like the recently completed Central Platte Campus facility in Denver, Colorado and the West College Utilities Facility in Santa Rosa, California were designed and built with sustainable and durable materials and renewable energy systems in mind, making them easy to maintain, energy-efficient, and capable of lasting 50+ years. The facilities include basic sustainable strategies like natural lighting and appropriate ventilation systems to create pleasant working environments for maintenance and operations staff. The use of best practices for site design and storm water management can heighten sustainability while setting an example for the public. Facilities like the ones in Denver and Santa Rosa prove that public works maintenance and operations facilities can be a cornerstone in the growing green facility movement.

As a public works leader, you have enough on your hands. Adding a new facility doesn't have to add to your list of headaches. Incorporating pre-design planning, making smart funding requests, and proactively addressing your design challenges will help you get the facility you need to attract and retain quality staff, serve your public, and protect your capital investment for years.