Standards of Response Cover and Headquarters Services Assessment for the

Glendale, AZ Fire Department

Volume 1 of 3 – Executive Summary

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VOLUME 1—EXECUTIVE SUMMARY

The City of Glendale, Arizona (City) retained Citygate Associates, LLC to perform a Standards of Response Cover and headquarters services assessment for the City's Fire Department. This study included reviewing the adequacy of the existing deployment system from the current fire station locations. This report is presented in three volumes, including this Executive Summary (**Volume 1**) summarizing our findings and recommendations, a Technical Report (**Volume 2**) that includes a Standards of Coverage (deployment) assessment and a headquarters services assessment, and a geographic map atlas (**Volume 3**) that displays fire unit travel time coverage.

1.1 POLICY CHOICES FRAMEWORK

As the City Council understands, there are no mandatory federal or state regulations directing the level of fire service response times and outcomes. The body of regulations on the fire service provides that *if fire services are provided, they must be done so with the safety of the firefighters and citizens in mind* (see regulatory discussion in **Volume 2**). Historically, the City has made significant investments in its fire services, and as a result, has good fire and emergency medical services (EMS) response coverage in the most populated sections of the City.

1.2 CITYGATE'S OVERALL OPINIONS ON THE STATE OF THE CITY'S FIRE SERVICES

In brief, Citygate finds that the challenge of providing fire services in the City is similar to that found in many communities: providing an adequate level of fire services within the context of limited fiscal resources, competing needs, growing and aging populations, plus uncertainty surrounding the exact timing of future development. Citygate must state up front that we found a quality fire services agency that is in no way run down or dysfunctional. The recommendations in this study should be considered as a continuous quality improvement tune-up that can be considered in the year-to-year budget process.

The City is currently meeting its needs through its own fire response resources and through partnerships with its neighbors in the regional automatic aid system. The deployment system mostly meets the City's current demands, but needs adjustment for low acuity, emergency medical incidents as growth occurs into the unincorporated areas. Throughout this report, Citygate makes observations, key findings, and, where appropriate, specific action item recommendations. Overall, there are 31 key findings and 12 specific action item recommendations.

Citygate finds a best practices based agency, with *very committed and caring employees, some of the best we have met.* They take pride in what they do, how they do it, and in taking care of the expensive equipment the City has to provide. Both line and command staff must deal with an ever escalating volume of emergency medical incidents due to the state of health care in America. However, the traditional method of sending more 4-person engines to low acuity

medical incidents is no longer cost effective. To the Department's credit, it is trying an adaptive response unit to lessen the incident demand pressure on the engine and ladder companies.

1.3 FIELD OPERATIONS DEPLOYMENT (FIRE STATIONS)

Fire department deployment, simply stated, is about the **speed** and **weight** of the attack. **Speed** calls for first-due, all-risk intervention units (engines, ladder trucks, and/or ambulances) strategically located across a coverage area. These units are tasked with controlling moderate emergencies, preventing the incident from escalating to second alarm or greater, which unnecessarily depletes Department resources as multiple requests for service occur. **Weight** is about multiple-unit response for serious emergencies, such as a room and contents structure fire, a multiple-patient incident, a vehicle accident with extrication required, or a heavy rescue incident. In these situations, a sufficient quantity of firefighters must be assembled within a reasonable time frame to safely control the emergency, thereby keeping it from escalating to greater alarms.

In **Volume 2** of this study, Standards of Response Cover and Headquarters Services Assessment Technical Report, Citygate's analysis of prior response statistics and use of geographic mapping tools reveals that the City has adequate fire station coverage for the existing most populated areas. The maps provided in **Volume 3** and the corresponding text explanation beginning in **Volume 2** describes in detail the City's current deployment system performance.

For effective outcomes on serious medical emergencies, and to keep serious, but still-emerging, fires small, Citygate's best practices based recommendation is for the first-due fire unit to arrive within 7 minutes of fire dispatch alerting the fire unit, 90% of the time. In the City, the current fire station system provides the following unit coverage, across a variety of population density/risk areas for emergency medical and fire incident types:

Table 25—Dispatch to Arrival Response Time (Minutes/Seconds)

Station	RY 12/13	RY 13/14	RY 14/15
Citywide	6:21	6:32	6:44
Station 151	6:20	6:33	6:44
Station 152	5:56	6:10	6:30
Station 153	5:38	5:27	5:34
Station 154	5:52	5:45	6:10
Station 155	7:02	7:18	7:16
Station 156	6:27	6:30	6:58
Station 157	6:16	6:22	6:33
Station 158	6:53	6:51	7:05
Station 159	6:36	6:43	6:57

If 60 seconds is added for fire dispatch process to the 14/15 Citywide measure, the resultant time of 7:44 minutes/seconds is only slightly past Citygate's recommended goal point of 7:00. In Citygate's experience, this is very good performance across a challenging, non-grid type street network with the high incident volumes the Department encounters.

As **Volume 2** of this report will detail, the crew turnout times are *excellent*. The travel times are between a best practices recommendation of 4 minutes and under 6 minutes, reflective of the size of some station areas, the road network design, and open space areas. Short of adding more stations and given the City's geography, for the modest number of emergencies between the 5th and 6th minute of travel time, there is no way to appreciably lower the travel times, except by using peak hour, low acuity medical response units.

The Department is staffed for two serious building fires at a time and multiple medical calls for service at the same time. The regional automatic aid response system delivers greater alarm and multiple-incident support, when needed, although with longer response times.

1.4 Overall Deployment Evaluation

The Department serves a diverse land use pattern in a geographically challenging area bisected by open space areas, freeways, and unincorporated County islands. Population drives service demand, and development brings population. The Department does have to respond to a very high incident volume, driven by emergency medical events.

For the foreseeable future, the City will need both a first-due firefighting unit and Effective Response Force (First Alarm) coverage in all parts of the City, consistent with current best practices, if the risk of fire is to be limited to only part of the inside of an affected building. While residential fire sprinklers are now included in the national model fire codes, it will be decades before the existing housing stock will be upgraded or replaced, even if these codes were to be adopted for all new construction.

If the City wants to provide the three elements below, the City must increase its deployment of crews to include two types: (1) two-person, low acuity, medical assessment teams; and (2) additional fire stations where significant annexation expands the City's service area.

- Provide equitable response times to all similar risk neighborhoods
- Provide for depth of response when multiple incidents occur
- Provide for a concentration of response forces in the core for high-risk venues.

For its current risks and desired outcomes, the City has the correct quantity of fire engines (pumpers) and ladder trucks. The staffing per unit and daily total Department-wide is appropriate and commensurate with the risks in urban/suburban areas.

The first deployment step for the City in the near term is to adopt performance measures from which to set forth service expectations and, on an annual basis, monitor Fire Department performance as part of its annual budgeting process. Then monitor the impact of the first low acuity unit and add more such units as proven beneficial. New stations in annexed areas can be built with impact fees and staffed when there is enough increased revenue to do so from aggregate new development.

1.5 Overall Headquarters Services Evaluation

Citygate's review of headquarters programs revealed that the Department does provide best practices-based services meeting the risk control and emergency control expectations of the City. Having said this, the recession-caused reduction in headquarters positions cannot all be restored immediately or completely, given current revenue forecasts. The Department has been triaging its headquarters capacity to the programs that deliver day-to-day services first, along with ensuring safe, effective operations for the workforce. However, some services are strained and Citygate's recommendations are aimed at balancing the needs of the emergency operations with the other lines of business in prevention and overall administration. The Department is filling some headquarters positions with line fire personnel. This may not be cost-effective over the long term. As such, the City needs to review the total quantity of sworn fire suppression personnel assigned to headquarters programs.

1.6 Deployment Findings and Recommendations

Citygate's deployment findings and recommendations are listed below. For reference purposes, the findings and recommendation numbers refer to the sequential numbers as these are presented in the technical report volume.

Finding #1: The City has not adopted a complete and best practices-based deployment measure or set of specialty response measures for all-risk emergency responses that includes the beginning time measure from the point of police dispatch receiving the 9-1-1 phone call, nor a goal statement tied to risks and outcome expectations. The deployment measure should have a second measurement statement to define multiple-unit response coverage for serious emergencies. Making these deployment goal changes will meet the best practice recommendations of the Commission on Fire Accreditation International.

Finding #2: Using the current nine fire station locations, including automatic aid stations, the highest developed population density areas are within four minutes travel time of a fire station. However, some infill areas, and the western expansion areas, are not.

Finding #3: The City's fully-developed neighborhoods are within eight minutes travel time of an Effective Response Force assignment of three engines, one City ladder truck/quint, and two City Battalion Chiefs that is compliant with the National Fire Protection Association (NFPA).

Finding #4: The City's time-of-day, day-of-week, and month-of-year calls for service demands are very consistent. This means the City needs to operate a fairly consistent 24/7/365 response system.

Finding #5: If 60 seconds are added to the Report Year (RY) 14/15 Citywide Dispatch to First Arrival measure, the resultant time of 7:44 minutes/seconds is only slightly greater than Citygate's recommended goal of 7:00. In Citygate's experience, this is very good performance across a challenging, non-grid street network with high incident volumes.

Finding #6: The City's turnout times are consistently well under two minutes from station to station, which is very good and close to an ideal of 80 seconds.

Finding #7: The first-due unit travel times in the City are longer than a best practice goal of four minutes, which is reflective of the non-grid street design, the large size of some station areas, and simultaneous calls for service requiring farther away units to respond at times.

Finding #8: The City's *travel time* response time for six units to serious fires, known as the Effective Response Force (ERF or First Alarm), ranges in Report Year (RY) 14/15 from 5:12 to 9:56, which, given the road network design and small sample size, are close to the ideal of eight minutes.

Finding #9: The three busiest fire station areas in Glendale do experience a high volume of incident demand from 8:00 a.m. to 8:00 p.m. To deliver this level of service, the three stations contain six fire apparatus with a total of 24 firefighters.

Finding #10: The most committed Glendale apparatus is Engine 154 due to Phoenix responses. The six apparatus to the south of Engine 154 in the busy southeast Glendale area have serious, but not extremely high Unit-Hour Utilization (UHU) factors. This proves how the six units in the busiest three-station area are currently accommodating the incident workload.

Finding #11: The Glendale Fire Department is part of a beneficial regional model where the closest unit responds to incidents. This provides the fastest incident response. No single deployment measure or set of data, including single-unit or multiple-unit response counts, can adequately capture the benefit of having the closest units always on standby to respond.

Finding #12: The Glendale Fire Department is to be commended for pilot testing a low acuity, two-firefighter response team for medical incidents. It is exactly the next step that Glendale fire services should take instead of adding more four-firefighter engine crews to respond to such incidents.

Recommendation #1: **Adopt City Council Deployment Measures Policies:** The City elected officials should adopt updated, complete performance measures to direct fire crew planning and to monitor the operation of the Department. The measures of time should be designed to save patients where medically possible and to keep small but serious fires from becoming greater alarm fires. With this is mind, Citygate recommends the following measures:

1.1 Distribution of Fire Stations: To treat medical patients and control small fires, the first-due unit should arrive within 7 minutes, 90% of the time from the receipt of the 9-1-1 call in the regional fire dispatch center. This equates to a 1-minute dispatch time, a 2-minute company turnout time, and a 4-minute drive time in the most populated areas.

1.2 Multiple-Unit Effective Response Force for Serious Emergencies: To confine fires near the room of origin, to stop wildland fires to under three acres when noticed promptly, and to treat up to five medical patients at once, a multiple-unit response of a minimum of three engines, one ladder truck, and two Battalion Chiefs with aides totaling 20 personnel should arrive within 11:00 minutes from the time of 9-1-1 call receipt in fire dispatch, 90% of the time. This equates to 1-minute dispatch time, 2 minutes company turnout time, and 8 minutes drive time spacing for multiple units in the most populated areas.

1.3 Hazardous Materials Response: Provide hazardous materials response designed to protect the community from the hazards associated with uncontrolled release of hazardous and toxic

materials. The fundamental mission of the City response is to minimize or halt the release of a hazardous substance so it has minimal impact on the community. It can achieve this with a travel time in urban to suburban areas for the first company capable of investigating a HazMat release at the operations level within 4 minutes travel time or less than 90% of the time. After size-up and scene evaluation is completed, a determination will be made whether to request additional resources from the City's multi-agency hazardous materials response partnership.

1.4 Technical Rescue: Respond to technical rescue emergencies as efficiently and effectively as possible with enough trained personnel to facilitate a successful rescue. Achieve a travel time for the first company in urban to suburban areas for size-up of the rescue within 4 minutes travel time or less 90% of the time. Assemble additional resources for technical rescue capable of initiating a rescue within a total response time of 11 minutes, 90% of the time. Safely complete rescue/extrication to ensure delivery of patient to a definitive care facility.

1.5 Emergency Medical Services: The City should continue to continue to provide first responder paramedic services to all neighborhoods to 90% of the medical incidents within at least 7:00 minutes/seconds from fire dispatch receipt or as required, per the Department's and State's EMS Medical Directors.

Recommendation #2: Funding should be provided, as soon as possible, to make the two-person, low acuity team permanent. The pilot program should be expanded with at least one more unit as data shows the first low acuity unit cannot handle all of the designated incidents. The goal is to keep as many of these incidents from requiring a fire engine or ladder unit response.

Recommendation #3: The Department should work with its Medical Director and the ambulance provider to send only basic (Emergency Medical Technician (EMT), non-paramedic) ambulances to the low acuity incidents. Doing so will further control costs and retain more paramedic-level ambulances for the most serious patient emergencies.

1.7 Headquarters and Support Services Findings and Recommendations

Citygate's headquarters services findings and recommendations are listed below.

Finding #13: The Glendale fire headquarters staffing is very strong for fire and EMS programs, but relies on 15 line fire suppression personnel, which is the equivalent of one staffed fire engine on a full-time basis. The Department does not have a master plan regarding which headquarters positions are deemed essential for safe operational, fiscal, and personnel oversight. It has also not been determined which positions should consist of sworn personnel on rotation or permanent, civilian employees.

Finding #14: Even with the use of sworn line personnel in headquarters programs, other headquarters functions are still short of personnel due to recession-caused reductions. Citygate suspects that, over the years, line operations received more focus than fire prevention, administrative/finance, office support positions, and personnel programs. This imbalance should be studied further by the new Fire Chief as part of the City's budget planning process.

Finding #15: Unless the City chooses to stop annual fire and life safety maintenance inspections, the City must address the Fire Prevention staffing shortfall.

Finding #16: Expansion of *both* the Public Education and Crisis Response programs would require the ongoing fiscal commitment to add two non-sworn positions to these programs.

Finding #17: The special event Fire Prevention workload impacts must be better understood, staffed, and funded by impact fees. The likely result will be the need to add and fund at least a .5-time Fire Inspector for just special events work. The other .5-time could be utilized for annual commercial building maintenance inspections.

Finding #18: Fire Prevention does not have an in-depth cost recovery policy, nor a permit and inspection fee schedule.

Finding #19: The headquarters EMS Division is adequately staffed to manage the scope of the Department's EMS programs and licensed personnel.

Finding #20: The Fire Department has a very robust Health and Safety Program meeting best practices.

Finding #21: The Department has a very robust Wellness Program meeting best practice recommendations, except for mandatory on-duty fitness time.

Finding #22: The Department is not meeting its annual training hours requirements of 228 hours for firefighters and engineers and 240 for officers.

Finding #23: The Blue Card Incident Command certification program is not yet fully implemented.

Finding #24: The regional approach for technical rescue responses serves the community well.

Finding #25: The regional multi-fire-department approach for hazardous materials incidents responses is cost effective and serves the City's needs.

Finding #26: The Department does **not** have a fire apparatus replacement program. Apparatus purchases are funded through a request in the annual budget process when they are needed and **if** the funding and/or grants can be found.

Finding #27: The mechanics that perform maintenance on the fire apparatus are **not** certified as Emergency Vehicle Technicians as recommended by the National Fire Protection Association (NFPA).

Finding #28: The Department has reached the end of the current model self-contained breathing apparatus (SCBA) 10-year life cycle. At the next national standards update, the Department will have compliance issues with its existing SCBAs, and eventually spare parts issues.

Finding #29: The Department has trained and certified personnel on staff to make needed repairs to personal protective equipment (PPE), thus reducing the out-of-service time.

Finding #30: The Department does <u>not</u> have a second set of personal protective equipment (PPE) for 74% of the line fire station personnel to assure limited exposure to carcinogens and contaminants from fires or other exposures.

Finding #31: The Department and City do not have a capital facilities replacement fund to support capital repairs, replace fire stations, or add new fire stations.

Recommendation #4: Department and City personnel should conduct a desk time/activities audit to determine the actual workloads and job description requirements for all headquarters positions, resulting in an agreed-to right-sized full-time equivalent (FTE) count plan, including more use of non-sworn civilian positions in technical and professional functions. The goal should be to return as many chiefs, fire captains,

engineers, and firefighters to fire company staffing duties as possible. Any changes could be phased over several fiscal years.

Recommendation #5: The City and Fire Chief must accept lower Fire Prevention customer request processing times and resultant lower annual work output, or should add a minimum of one fire inspector/investigator position.

Recommendation #6: Citygate recommends the City consider implementing a single Citywide Special Events Manager and create an integrated, multi-department permit and inspection program process, supported by an appropriate set of fee policies.

Recommendation #7: Citygate recommends the City Council consider setting a 75-100% cost recovery policy for new construction and annual maintenance inspection work, and, in so doing, design an appropriate fee program and billing system.

Recommendation #8: Citygate recommends the City adopt a replacement funding policy for the expensive paramedic cardiac monitor defibrillators. All existing units at or greater than 10 years of age should be replaced as soon as possible in early- to mid-2016.

Recommendation #9: The Blue Card Certification program should be adequately funded and time should be allocated for members to participate.

Recommendation #10: The City and Department should reinstate the requirement for certification as Emergency Vehicle Technicians for personnel to maintain and perform repairs on fire apparatus.

Recommendation #11: The Department should develop a capital replacement funding accounts to save annually towards the replacement of firefighter interior firefighting breathing equipment (SCBAs), fire apparatus, and other expensive equipment such as paramedic electrocardiogram (EKG) units, to assure compliance with best practices and standards.

Recommendation #12: The City should fund and maintain two complete sets of personal protective equipment (PPE) to assist in reducing exposure to contaminants from a fire, carcinogens, and other contaminants.

1.8 NEXT STEPS

The purpose of this assessment is to compare the City's current performance against the local risks to be protected, as well as to compare against nationally recognized best practices. This analysis of performance forms the base from which to make recommendations for changes, if any, in fire station locations, equipment types, staffing, and headquarters programs.

As one step, the City Council should adopt updated and best practices based response time goals for the City and provide accountability for the City personnel to meet those standards. The goals identified in Recommendation #1 meet national best practices. Measurement and planning as the City continues to evolve will be necessary for the City to meet these goals. Citygate recommends that the City's next steps be to work through the issues identified in this study over the following time lines:

1.8.1 Short-Term Steps

- Absorb the policy recommendations of this fire services study and adopt updated City performance measures to drive the deployment of firefighting and emergency medical resources.
- Conduct a detailed desk audit of the sworn and non-sworn staffing needs of the fire headquarters divisions.
- Complete funding for a second set of firefighter protective clothing for the remaining fire station personnel.
- As soon as possible, fund the replacement of the paramedic cardiac monitor defibrillator units.
- Continue to implement low acuity, two-firefighter EMS units and, as needed, use dispatch EMS incident priorities to limit the response of full fire engines to low-severity medical incidents.

1.8.2 Long-Term Steps

- Monitor the effect of the EMS low acuity pilot program changes.
- Monitor the effect of American Medical Response's (AMR's) buyout of Rural Metro Ambulance. Reconsider applying to the State for a Certificate of Necessity if the City finds the regional ambulance service to significantly and routinely fail to meet the City's needs.