2016/2017 MATERIALS MANAGEMENT CALL FOR PROJECTS
PROJECT SUMMARY SLIDE

APPLICANT: City of Plano
GRANT ADMINISTRATOR: Evan Carpenter
KEY PARTNERS: N/A

PROJECT TITLE: Waste Characterization and Recycling Behaviors Study

REQUESTED SOLID WASTE FUNDS: $60,000

PROJECT SUMMARY:

The City of Plano seeks grant funding to manage a multifaceted study examining opportunities to increase recycling in the residential and commercial sectors. On the residential side it involves conducting a waste characterization of residential trash and recycling streams and a survey with supporting focus groups on residents’ recycling habits and barriers to recycling. In the commercial sector, the City wants to evaluate program options building on its current C & D recycling program related to incorporating a Construction and Demolition (C & D) MRF in Celina, TX, into the City’s standard operations and identifying ways to maximize recycling for smaller C & D generators (home remodeling and small commercial properties).

PROJECT IMPACT:

The proposed project aims to affect the City’s overall recycling rate by identifying barriers in both the residential and commercial sectors. On the residential side recycling rates have more or less plateaued despite outreach and program efforts; therefore, we need a better understanding of the behavioral barriers they face in recycling more. Gaining this information will allow for more effective education programs. In the commercial sector C & D materials make up a large portion of recycled materials, but additional opportunities remain to further improve this. This project will allow us to identify which policies and programs would be most effective based on the characteristics of Plano. This project supports the regional goal of materials management education and training by providing the informational framework that will be used to create outreach and education messages and programs. It also applies to the goal of expansion of waste management programs by evaluating methods of increasing the effectiveness of the City’s C & D recycling program.

PROJECT GOALS:

1. Conduct a waste characterization of Plano’s residential trash and recycling streams.
2. Utilize focus groups and a survey to assess residents’ recycling habits and barriers to recycling.
3. Identify C & D program options to incorporate fully automated MRF operations and smaller generators of C & D materials (home remodeling and small commercial properties).

KEY TAKEAWAY:

The proposed project will create actionable program recommendations to increase the City of Plano’s residential and commercial recycling rates.
Application Number:
FY16-04-13

**Submitting Entity Name:**
City of Plano

**Current Solid Waste Service Provider:**
City of Plano (residential), Republic Services (commercial)

**Current Recycling Service Provider:**
City of Plano, Republic Services, United Electronics Recycling

**Project Contact Name:**
Evan Carpenter

**Project Contact’s Direct Telephone/Fax:**
972-769-4343 / 972-769-4219

**Street Address (No PO Boxes):**
4200 W. Plano Pkwy

City: Plano
State: Texas
Zip Code: 75093
County: Collin

**Project Contact Title:**
Recycling Education Coordinator

**Email Address:**
evanc@plano.gov

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**Primary Financial Contact - Authorized Representative:**
Gerald Cosgrove

**Primary Financial Contact’s Direct Telephone/Fax:**
972-769-4276 / 972-769-4172

**Street Address:**
4120 W. Plano Pkwy

City: Plano
State: Texas
Zip Code: 75093

**Financial Contact Title:**
Director, Public Works

**Email Address:**
Geraldc@plano.gov

**Submitting Entity Name of Authorized Financial Rep**
City of Plano

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**Eligible Entities**

To be eligible for this grant program the submitting entity must fit into one of the categories listed below.

City

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**Grant/Project Information**

**Project Title:**
Waste Characterization and Recycling Behaviors Study

**Project Abstract:**
The City of Plano seeks grant funding to manage a multifaceted study examining opportunities to increase recycling in the residential and commercial sectors. On the residential side it involves conducting a waste characterization of residential trash and recycling streams and a survey with supporting focus groups on residents’ recycling habits and barriers to recycling. In the commercial sector, the City wants to evaluate program options building on its current C & D recycling program related to incorporating a C & D MRF in Celina, TX, into the City’s standard operations and identifying ways to maximize recycling for smaller C & D generators (home remodeling and small commercial properties).
Which TCEQ funding category does this program fall under?
Technical Studies

Which goal area does this program fall under?
Support Materials Management Education and Training
Promote Creation and Expansion of Waste Management Programs
<table>
<thead>
<tr>
<th>Budget Categories</th>
<th>Funding Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personnel (Salary)</td>
<td>$0</td>
</tr>
<tr>
<td>2. Fringe Benefits</td>
<td>$0</td>
</tr>
<tr>
<td>3. Travel (Does not include registration)</td>
<td>$0</td>
</tr>
<tr>
<td>4. Detailed Consumable General Office Supply Budget (unit cost of less than $1,000)</td>
<td>$0</td>
</tr>
<tr>
<td>5. Equipment (unit cost of $5,000 or more)</td>
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</tr>
<tr>
<td>6. Construction</td>
<td>$0</td>
</tr>
<tr>
<td>7. Contractual (other than for Construction)</td>
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<tr>
<td>8. Detailed Other Expenses Budget</td>
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<tr>
<td>9. Indirect charges</td>
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<td><strong>TOTAL</strong></td>
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Applicant's In-Kind | $13,034

Applicant's Match | $60,000

### 1. Personnel (Salary)

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<th>Title</th>
<th>Function</th>
<th>Monthly Salary</th>
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**Narrative:**

### 2. Fringe Benefits

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### 3. Travel - *Please apply registration fees to Other budget section*

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**Narrative:**

### 4. Detailed Consumable General Office Supply Budget (Unit cost of less than $1,000)

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### 5. Equipment (Unit price of $5,000 or more)

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### 6. Construction

**ViewApplicant.aspx.html[1/15/2016 2:03:53 PM]**
## 7. Contractual

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<tr>
<td>Waste management consultant</td>
<td>Conduct construction &amp; demolition program study</td>
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<tr>
<td>Survey research consultant</td>
<td>Conduct survey of residential recycling behaviors</td>
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<td>Focus group research consultant</td>
<td>Addition to City’s match for hiring company for focus groups (see Applicant’s Match below)</td>
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## 8. Detailed Other Expenses Budget

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<th>Other Request</th>
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<td>Utilities</td>
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<td>Misc. Other</td>
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## 9. Indirect Charges

**Identify your indirect rate. Identify, in detail, each budget category to which your indirect cost rate applies and explain any special conditions under which the rate will be applied.**

<table>
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<tr>
<th>Indirect Cost Rate (%)</th>
<th>Indirect Request</th>
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## Applicant’s In-Kind

**Amount:** $13034  
**Narrative:**  
In-Kind Match of $13,034 is estimated as follows:  
- Sust. & Env. Education (SEED) Educator – 5 hrs/week @ $22/hour for 60 weeks = $6,600  
- SEED Administrative Assistant – 3 hrs/month @ $18 hour for 13 months = $702  
- SEED Supervisor – 3 hrs/month @ $28 hour for 13 months = $1,092  
- SEED Manager – 5 hrs/month @ $38 hour for 13 months = $2,470  
- Commercial Recycling Supervisor – 3 hrs/month @ $30 hour for 13 months = $1,170  
- Staff time from Purchasing and Legal – $1,000

## Applicant’s Match

**Amount:** $60000  
**Narrative:**
The City will provide $60,000 in matching funds; this money has been set aside and carried forward from the Public Works – Environmental Waste Services 2014-2015 fiscal year. These funds are estimated to be as follows: • Consultant to conduct waste characterization study: $45,000 • Company to conduct focus groups of residents regarding recycling: $18,000 ($15,000 from City funds, $3,000 from grant funds)

If more money becomes available, would you be able to expand your proposed project?
No
Detailed Project Description:

The City of Plano has implemented many programs to increase diversion of residential and commercial waste materials over the past 15 years. Notable examples include residential collection of yard trimmings and household hazardous wastes (which go to a regional composting facility and reuse center, respectively), monthly electronics drop-off events, collection of organics from businesses, and a commercial construction and demolition (C & D) recycling program. Despite these programs, the residential diversion rate for the City has remained fairly static around 39% over the past decade. On the commercial side, the diversion rate has grown tremendously from 6% to 37% between 2000 and 2014, but additional strategies are needed in coming years for continued growth. The City is seeking grant funding for a multifaceted study conducted by an outside consulting firm to evaluate opportunities to increase recycling in the residential and commercial sectors. Information from this study will be used to develop specific outreach and operational programs and policies tailored to the distinct character of Plano. Although the residential and commercial sectors face different obstacles to increasing recycling, both sectors can benefit greatly from the information gained from this study. Residential sector The residential recycling rate has plateaued over the last decade despite outreach and program efforts. Additional gains in recycling require a new approach with outreach and education programs. In order to identify the most effective programs, the City seeks to conduct a waste characterization study of the residential trash and recycling streams and a survey with supporting focus groups on residents' recycling habits and barriers to recycling. The waste characterization component will identify which recyclables are currently thrown in the trash that should be targeted for outreach efforts and identify additional recycling programs that could be developed for items not currently collected (e.g., curbside textile collection). The waste characterization study may include audits of individual carts or audits of trucks from routes. The focus groups will elicit detailed responses from a small group of participants (8-12 people) to identify important topics and issues to be included in the survey. The survey will be used to assess residents' recycling habits, how they obtain information on recycling, and other questions that arise from the focus groups. The survey will be distributed to a random sample of Plano households through mail, phone or email. Commercial sector C & D recycling makes up 63% of the recycling tonnage for Plano's commercial sector and for the combined residential and commercial sectors it is 43%; therefore, even small increases in the effectiveness of C & D recycling will lead to large gains. The City currently operates a deposit-based recycling program for C & D projects, in which contractors can recoup most or all of the deposit depending on the project's overall recycling rate. However, there are other materials that could be recycled that are not captured. One development is the construction of Champion's fully automated C & D MRF in Celina, TX, which presents an opportunity to evaluate program options to incorporate the MRF into the standard operation of the City's C & D program. Additionally, we need more information on the smaller generators of C & D materials (home remodeling projects and remodels of small commercial properties), specifically, what types of waste are being produced and whether they could be recycled. As the City continues to grow, C & D disposal is anticipated to be a larger portion of our waste stream as existing properties are redeveloped to meet demands. Evaluation of the current C & D disposal program and waste from smaller C & D debris generators will ultimately benefit Plano's overall recycling rate.

Description of how your project meets or supports the regional goal(s) and objectives:

This project advances the following regional goals: 1) Support materials management education and training, and; 2) Promote creation and expansion of waste management programs. Within the first goal, this project pertains to the objective of supporting outreach and education programs to facilitate long-term increases in recycling. Rather than focusing on implementing a specific outreach program, we need information on residents' recycling behaviors so that we can develop programs to target the barriers. For effective programming, we need to know where the gaps are in people's recycling knowledge, what types of recycling messages they respond to, and what behavioral barriers they face in recycling more. Basing new outreach programs on data will ultimately help us achieve long-term increases in recycling and will be a more productive use of city resources. Without such information, recycling education and programs will continue to be based on national research and speculation on the behaviors of Plano's residents, and will likely be less effective. Within the second goal, this project pertains to the objective of expanding the recycling of construction and demolition (C & D) materials. Although Plano currently operates a C & D recycling deposit program, this program needs to be evaluated in order to adapt to changing circumstances in the City and region. Specifically, opportunities to increase recycling provided by the new fully automated C & D material recovery facility (MRF) need to be assessed within the current ordinance and operational framework. We currently lack information on the potential impact of increased utilization of the MRF by Plano residents and businesses and the best options for accomplishing this. Through the proposed study of Plano's C & D disposal program, we anticipate we will have a better understanding of how to maximize disposal at the new C & D MRF and have a plan for improving the City's policies and processes. Additionally, we believe the assessment of C & D materials handled by the
smaller generators in Plano (residential remodels and small commercial properties) would provide an opportunity to expand the C & D program to effectively divert their C & D debris from the landfill.

Feasibility and Implementation: (40 points for Local Government Projects; 30 points for Regional Collaborative Projects)
The City of Plano has a long history of grant implementation and soliciting and managing consulting contracts; the execution of this grant will build on those experiences. Previous NCTCOG funded projects that were completed on time without significant changes to the scope of work include the “Right Place, Right Time, Right Stuff” campaign (completed August 2013) and the “Community Clean-up Trailer” (completed July 2015). The specific components of this proposal have precedents either within the City of Plano or other cities in the DFW region; therefore, finding qualified professionals should not be an issue. The City of Fort Worth recently completed a waste characterization study on a sample of their residential trash and recycling carts and the City of Austin completed a waste characterization study through audits of trucks from routes. We have spoken with both consultants and believe their services are in line with our needs and proposed budget. The City of Plano regularly conducts citizen and business surveys through a consulting firm (2012, 2015, and 2016). Additionally, we have identified several firms specializing in administering focus groups that are a match for our needs and proposed budget. The two Departments partnering on this grant have extensive experience procuring and supervising consultant contracts. For the C & D project of this grant, the Public Works department has utilized consultants in the past to conduct studies and develop plans, specifically for solid waste projects related to the commercial waste collection franchise agreement, public education for commercial customers, and the development of a regional composting operation business plan. Since these services are common among consulting firms, the pool of potential bidders is considerable and we can therefore expect competitive pricing from firms for the services requested. Based on the previous grant projects and Plano’s familiarity with soliciting and managing consultants, this proposal can be implemented effectively. The budget for this project is estimated based on previous contracts for similar services and discussions with a sample of firms. The City is committed to a funding match of $60,000 (50% of the total project cost), and in-kind contributions include staff time from the Public Works Dept., Environmental Waste Services Division and the Environmental Health Dept., Sustainability and Environmental Education Division.

Addressing Needs and Demonstrating Results: (45 points for Local Government Projects; 35 points for Regional Collaborative Projects)
The City of Plano has a regionally high diversion rate as a result of its efforts to continuously improve all aspects of recycling services. On the residential collection service side, improvements include 95-gallon carts for single-stream curbside collection, curbside yard debris collection, scheduled HHW pick-up, a Household Chemical Reuse Center for residents to pick-up reusable household products, and monthly electronics drop-off events. Residential outreach initiatives include the Recycle Right Plano brand, the Recycle Right All-Star incentive program, and regular communications with residents through print and electronic newsletters. Despite these programs, the residential recycling rate has not moved more than a few percentage points in the past decade. To overcome this recycling rate plateau, we need a better understanding of where we can optimize residential recycling, what motivates Plano residents to recycle, and what challenges they face in recycling. By discerning what items residents throw away that can be recycled and learning about the behaviors and motivators of our residents, we will have the information we need to develop additional waste diversion programs and provide targeted recycling outreach. Within the commercial sector, the diversion rate has increased from 5% to 38% since 1999, the year the Commercial Recycling Division was established. The creation of the construction and demolition (C & D) recycling program is partially responsible for this jump in the diversion rate, as it accounted for 63% of commercial recycling tonnage for FY 2014-15. The City’s comprehensive Plano Tomorrow plan includes action statements regarding infill and redevelopment of already developed areas of the city. This redevelopment will inevitably lead to demolition materials from old buildings and infrastructure as well as construction materials from new projects. To accommodate this influx of C & D materials and ensure as much of it as possible is recycled, we are requesting grant funding to evaluate the current C & D recycling program and identify areas that can be improved to increase its effectiveness. General progress will be measured through the completion of each component of the overall project described in the timeline and in the form of final recommendations. These recommendations will ultimately be used to develop programs to push the overall diversion rate (residential and commercial) closer to the City’s 50% goal.

Regional Advancement of Materials Management: (15 points for Local Government Projects; 10 points for Regional Collaborative Projects)
This project will contribute to the regional advancement of materials management by addressing barriers to increased recycling in both the residential and commercial sectors. On the residential side, the contamination rate averages around 12% and can best be reduced through
more effective education and outreach. However, since we currently lack data on how knowledgeable Plano residents are on what can be recycled, we cannot identify exactly where the problem lies; therefore, we feel the survey and focus groups will help assess resident knowledge and behaviors so future educational messages are research based. Additionally, the waste characterization study will highlight recyclable materials currently found in the trash stream that need to be targeted in outreach materials, as well as materials that are currently not accepted but could be targeted through a specific recycling program. For instance, determining the prevalence of aseptic containers in the waste stream could provide justification for their inclusion in the curbside collection program. Ultimately these studies will allow city staff to assess the feasibility of various alternative residential programs and implement those that will have the biggest impact. In the commercial sector, construction and demolition (C & D) materials are proving to be a significant portion of the waste stream. Addressing this recycling stream is recommended by the regional plan as a way to reduce landfill disposal costs and recover the value of these materials. In addition, an evaluation of the potential impact of a new fully automated C & D MRF could generally be used by other cities that want to explore how this technology could influence the operation of a C & D recycling program.
Collaborative Project

Partners (minimum of 3):

<table>
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<tr>
<th>Entity</th>
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</table>

Partnership and project impacts:

Letters of support must be submitted for each partnering entity (submit as PDF uploaded on final tab)

Project Timeline:

1. **Project Initiation**
   a. Execution of Interlocal Agreement with NCTCOG (March 2016; City staff)

2. **Focus Group Project Management**
   a. Secure services of focus group research consultant (July 2016; City staff)
   b. Conduct focus groups (December 2016; focus group research consultant, City staff)
   c. Submission of final report containing summary of findings (January 2017; focus group research consultant)

3. **C & D Recycling Project Management**
   a. Secure services of solid waste management consultant (August 2016; City staff)
   b. Submission of final report containing summary of findings (February 2017; waste management consultant)

4. **Waste Characterization Project Management**
   a. Secure services of solid waste management consultant (December 2016; City staff)
   b. Conduct waste audits (February 2017; waste management consultant)
   c. Submission of final report containing summary of findings (March 2017; waste management consultant)

5. **Survey Project Management**
   a. Secure services of survey research consultant (January 2017; City staff)
   b. Conduct survey (February 2017; survey research consultant)
   c. Submission of final report containing summary of findings (March 2017; survey research consultant)

6. **Project Close-out**
   a. Complete all activities and finalize documentation (June 30, 2017; City staff)
b. Complete final project report (July 30, 2017; City staff)
PRIVATE INDUSTRY NOTIFICATION

Private Industry Notification: List of Other Entities Which Provide a Similar or Related Service. FOR PROJECT TYPES LISTED, THIS SECTION MUST BE COMPLETE IN ORDER TO BE CONSIDERED FOR FUNDING

This section is applicable only to the following grant categories:

a. Source Reduction and Recycling
b. Citizens' Collection Stations and "Small" Registered Transfer Stations
c. A demonstration project under the Education and Training project category

According to state law, a project or service funded under this program must promote cooperation between public and private entities (by definition includes non-profit organizations), and may not be otherwise readily available or create a competitive advantage over a private industry (by definition includes non-profit organizations) that provides recycling or solid waste services. If the proposed project provides a service, in the spaces below, list all known private service providers in the affected geographic area known to provide a similar or related service and summary your discussion with the providers. You must comply with the notification requirements. Please attach additional pages if needed.

**Statement of Private Sector Notification:**

Private Sector Notification Status:

<table>
<thead>
<tr>
<th>Private Service Providers Contacted</th>
<th>Name and Position</th>
<th>Date Notified</th>
<th>Method of Contact</th>
</tr>
</thead>
</table>

**Summaries of Discussions with Private Industry**
Signature

✔ By checking this box, the Applicant certifies that it has reviewed the certifications, assurances and deliverables included in this application, that all certifications are true and correct, that assurances have been reviewed and understood, and that all required deliverables are included with this application submittal.

Supporting Documentation:
The supporting documentation files include: * Resolution from Plano City Council supporting the grant proposal and matching funds * Project summary slide

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<th>Date</th>
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<tbody>
<tr>
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Signing Entity:
City of Plano

Name: Gerald Cosgrove
Title: Director, Public Works

Phone: 972-769-4276
Email: Geraldc@plano.gov

Date Signed: 01-15-2016