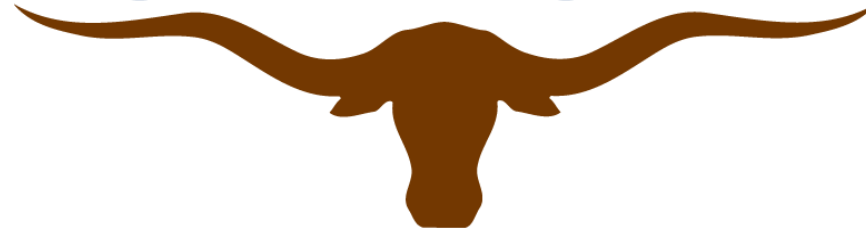


2017 -2037 Comprehensive Solid Waste Management Plan

FORT WORTH



March 23, 2018

Joao Pimentel, AICP – Senior Planner

Code Compliance – Solid Waste Services Division

“We cannot keep losing our nation’s valuable resources by using them once and burying them in a landfill forever. Fort Worth has to do its part by finding our own solution.”

Current Model of Consumption and Disposal Based on Doubly Fatally Flawed Assumptions:

- The linear model of harvesting raw materials, production of goods, single use, and final disposition assumes:
 - **Infinite amounts of resources**
 - **Infinite space for disposal**
- Both, however, are finite commodities



The New Model

The Re-thinking of the very notion of waste:

- What is waste?
- Why waste?
- What is a resource and what are the management opportunities they may entail?
- What resources can be captured efficiently and economically?

“The City of Fort Worth's new 2017 – 2037 Comprehensive Solid Waste Management is a purposeful effort to re-think and re-evaluate the very notion of 'waste' and advances plans to turn today's 'waste' into resources for tomorrow.”



Principles in Developing the Plan

- Comprehensive. It covers the totality of the municipal solid waste, instead of being limited to one of its sectors.
- Systematic rather than being an atomized approach to solid waste management.
- Synergetic, identifying and recommending mutually-helpful initiatives with other city departments and outside agencies that benefit all, and promote the common good.



Fort Worth Sustainable Approach



 **RETHINKING
WASTE** For a Greener
Fort Worth

Doing Our Part: Planning Objectives

Planning is essential to ensure future solid waste management (collection, resource recovery, and disposal) is accomplished responsibly:

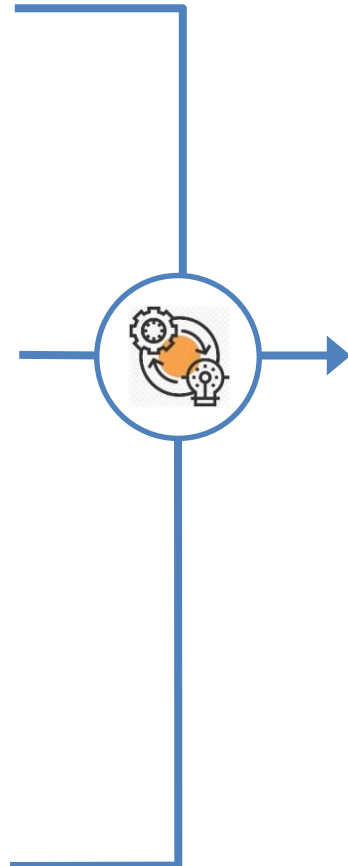
- **Increase recycling & diversion** to reduce the amount of waste collected, transported, and landfilled, and, consequently, extend the life of the Fort Worth Southeast Landfill
- **Redirect long-term reliance on landfilling**
- **Build sustainable services** (both environmentally & financially based)
- Anticipate and respond to **economic growth and its impact on livability**
- **Foster Public and Private Partnerships**



Plan Development

INPUT

- Public Meetings (3)
- Workshops (6)
- On the Street (102)/Online surveys (533)
- Stakeholder Meetings (9)
 - Business & Industry Groups
 - Environmental & Community Groups
- Influential Leaders (32)
- Consultant(s)
- Historical Data
- Benchmarks
- Best Practices



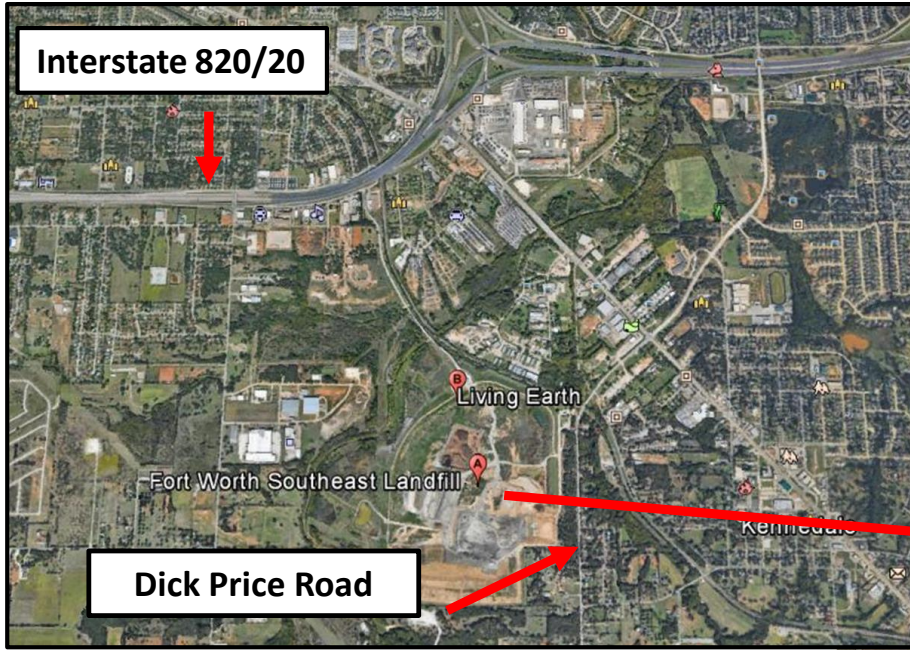
OUTPUT

- Unanimous Approval
- Implementation and Review Schedules & Timelines
- Over 300 Pages
- 129 Recommendations/Action-Items
- Distributed in 9 Sections and 6 Appendixes

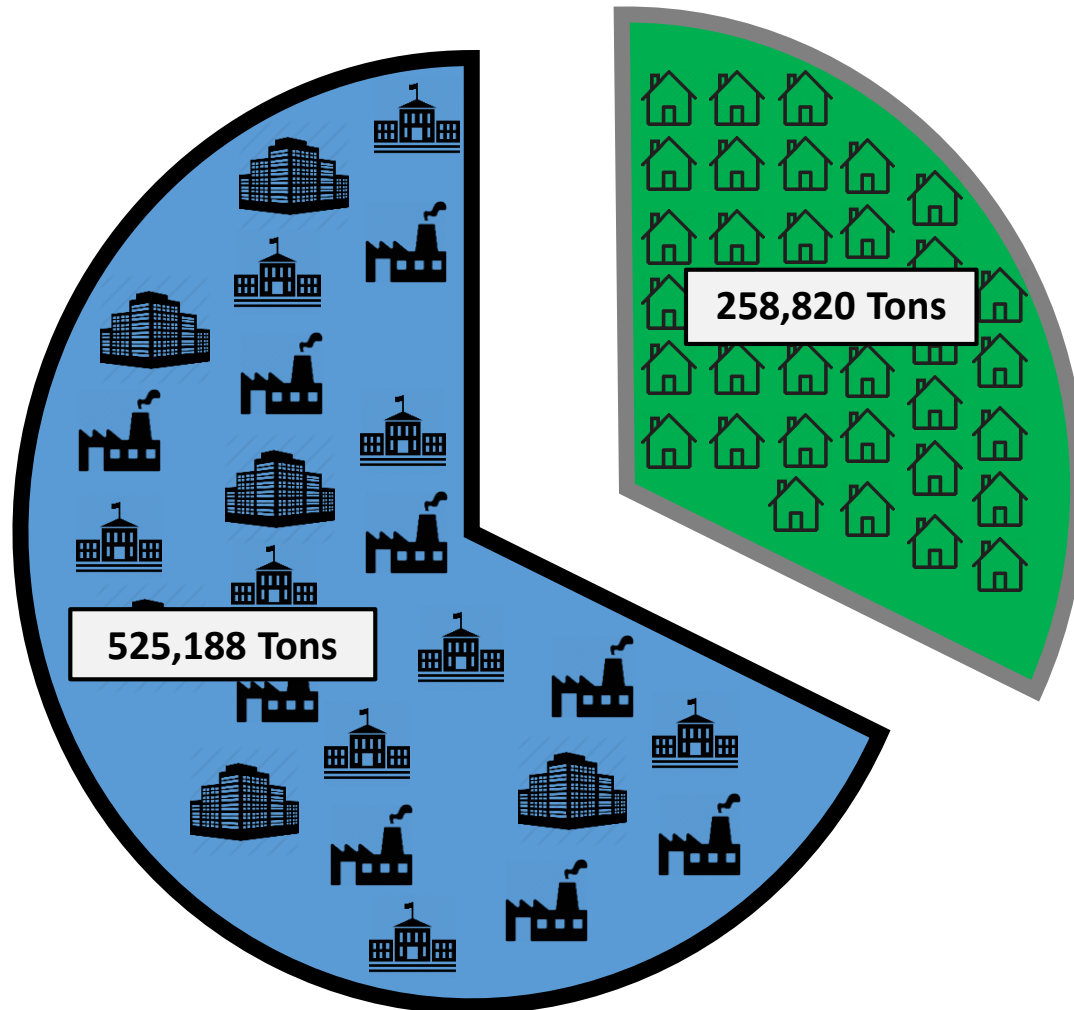
Distribution of the Plan Recommendations

- 1. Preservation of Southeast Landfill (33 recommendations)**
2. Incorporate Commercial & Industrial Waste Strategies (24 recommendations)
3. Engage and Promote Environmental Stewardship (26 recommendations)
4. Grow Top Shelf Residential Services (23 recommendations)
5. Roadmap for Future Policy Considerations (23 recommendations)

Fort Worth Southeast Landfill



Distribution of the City's Total Waste Stream

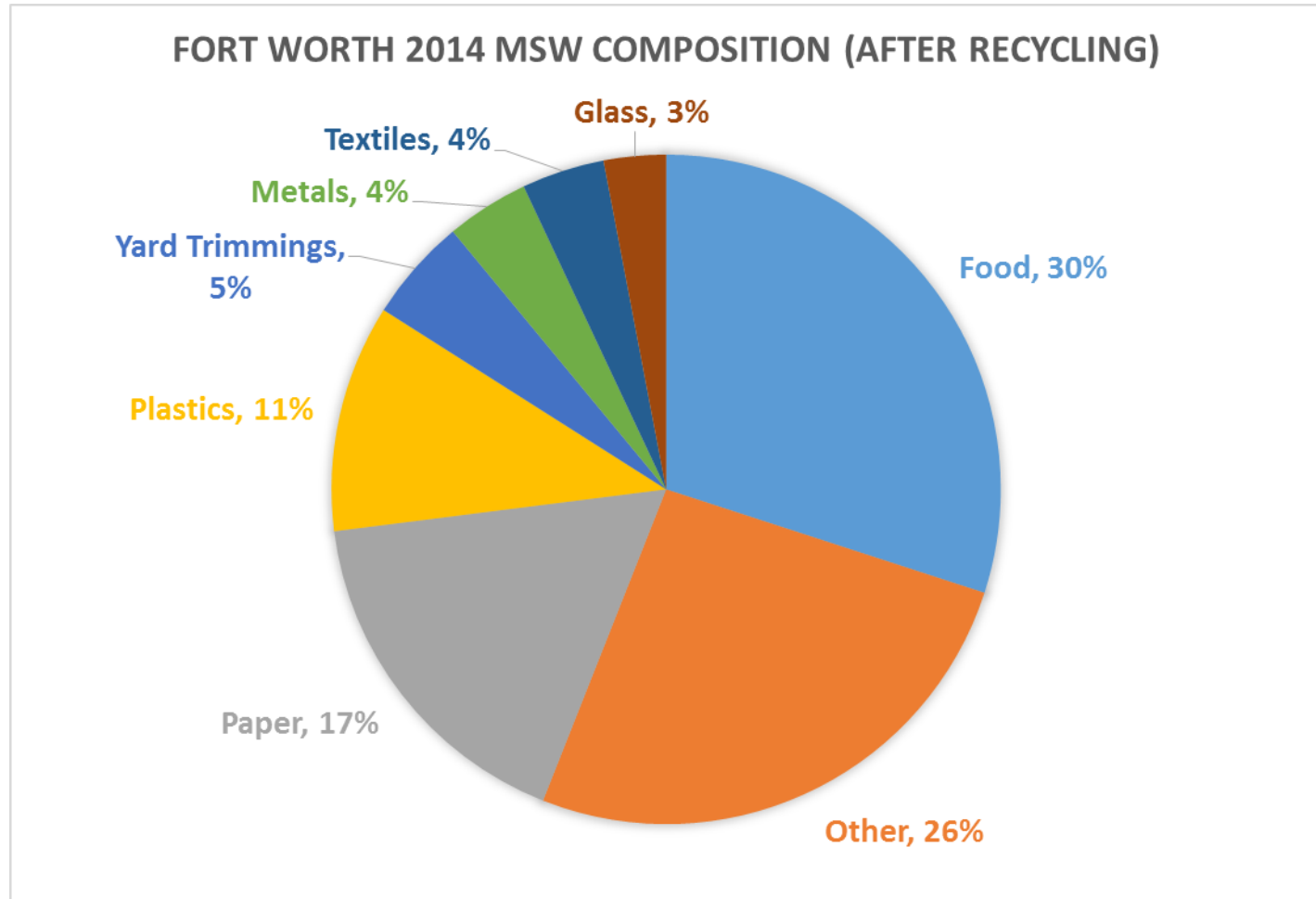


- 66.7% of volume is ICI**
- Serviced by the private sector
 - The city can influence the ICI sector but has limited authority over it

- 33.3% of volume is Residential**
- This segment is controlled by the city

What is going to the Landfill?

35% of the Materials in the Garbage Carts Belong In Single Stream Recycling



Southeast Landfill Projected Capacity

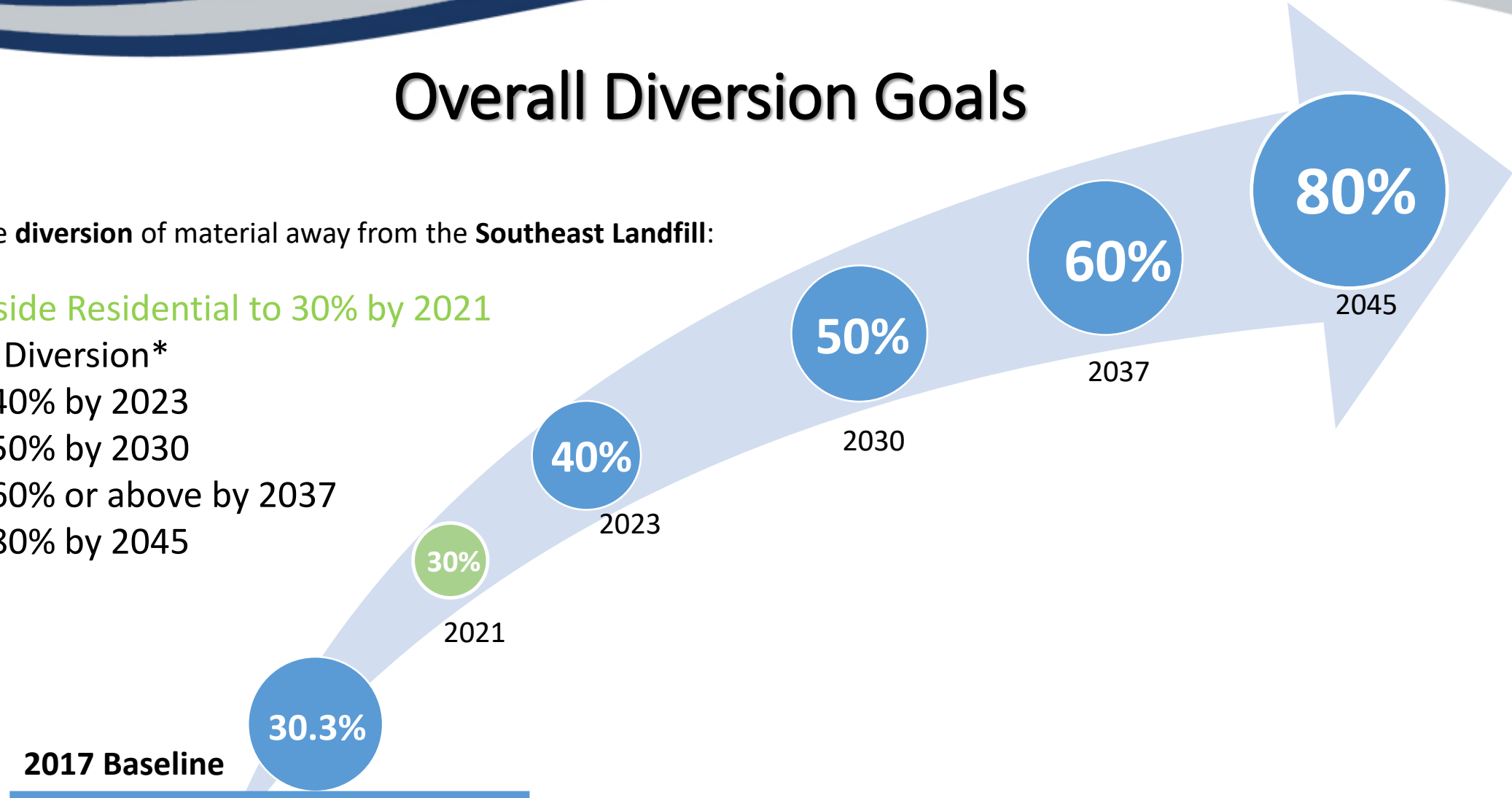
- It is projected that the SELF has an anticipated remaining capacity of 18 to 32 years (2036-2050).
- The lower estimate of 18 years assumes that waste volumes will grow at a rate of 1.7 % per year.
- The higher estimate of 32 years assumes that the tonnage disposed in SELF will be reduced to an average of 580,000 tons per year over the 32 year period.

Year	Annual Tons Accepted	Annual Airspace Used (Cubic Yards)	Total Remaining Airspace (Cubic Yards)	Estimated Years of Remaining Capacity
2011	557,474	540,000	27,475,700	50.88
2012	643,519	731,000	26,935,700	36.85
2013	642,640	785,500	26,204,700	33.36
2014	722,555	880,200	25,419,200	28.88
2015	920,981	1,103,900	24,539,000	22.23

Overall Diversion Goals

Increase the **diversion** of material away from the **Southeast Landfill**:

- Curbside Residential to 30% by 2021
- Total Diversion*
 - 40% by 2023
 - 50% by 2030
 - 60% or above by 2037
 - 80% by 2045



(*) Total Diversion includes the Residential, and the Industrial, Commercial, and Institutional sectors of the municipal solid waste

How Does the Fort Worth's Plan Compare to Other Plans?

City	Targeted Diversion Rate	Year	Notes
Austin	50%	2015	Despite a heavily regulated environment (Austin's Office of Sustainability and its "Climate Protection Plan"; Universal Recycling Ordinance; Zero Waste Strategic Plan; signatory of the United Nations "Urban Environmental Accords", etc.), and compliant and willing residents, Austin's achieved diversion rate in 2015 stood at 42% .
	75%	2020	
	85%	2025	
	90%	2030	
	95% +	2040	
Dallas	40%	2020	Diversion rate to be achieved on the basis of voluntary participation. (Currently, 20%)
	60%	2030	Mandatory policies are introduced
	84%	2040	Mixed waste processing introduced
Fort Worth	30% - Residential Diversion	2021	The Fort Worth Plan was developed as a self-correcting, dynamic document. Goals will be assessed at regular intervals and will be modified depending on the state of the processing technology and financial feasibility of material management options.
	40% Diversion	2023	
	50% Diversion	2030	
	60% Diversion	2037	
	80% Diversion	2045	Looking Forward – It might be feasible pending technology & City's Policy.

Current Residential Recycling Rate

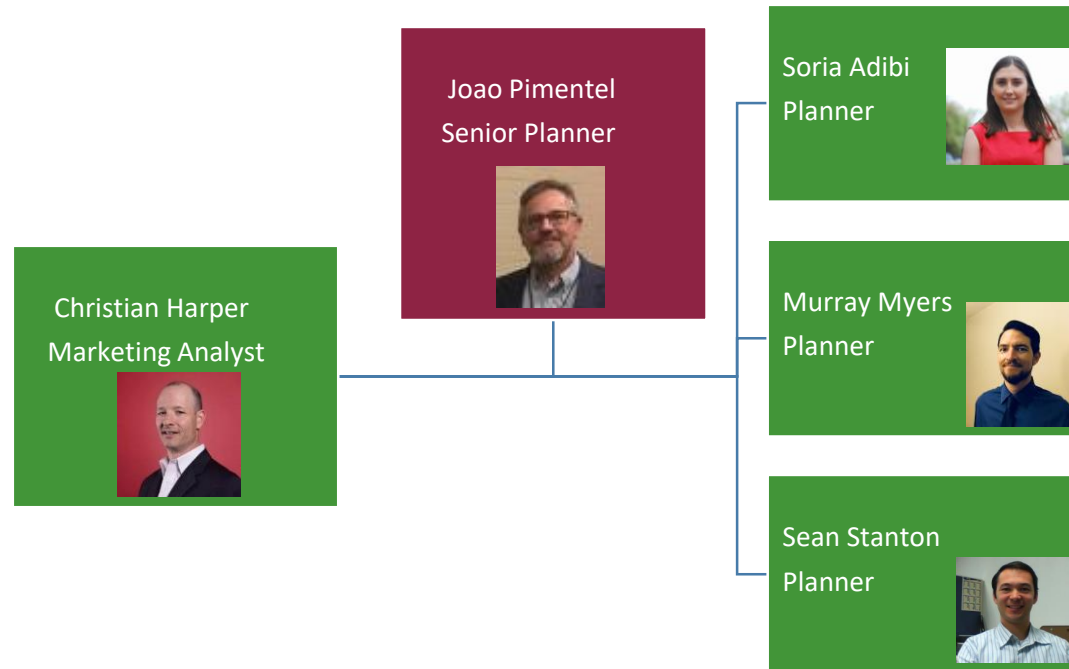
Residential Recycling	2015	2016	2017
Total Residential MSW Generated	479,743	526,399	532,423
Estimated Maximum Recycling Rate	40.0%	40.0%	40.0%
Estimated Maximum Recycling Tons	191,897	210,560	212,969
Residential Recycling Rate	20.68%	22.65%	21.68%

Current Diversion Rate

Metric	2016	2017
Total Tons Accepted	832,298	830,324
Total Tons Diverted	313,971	361,188
Total Diversion Rate	27.39%	30.31%
Goal Diversion Rate – Percentage	40.0%	40.0%
Goal Diversion Rate - Tons	458,508	476,605
Delta - Percentage	-12.61%	-9.69%
Delta - Tons	(144,537)	(115,417)

Creating The Solution: The Material Management Program

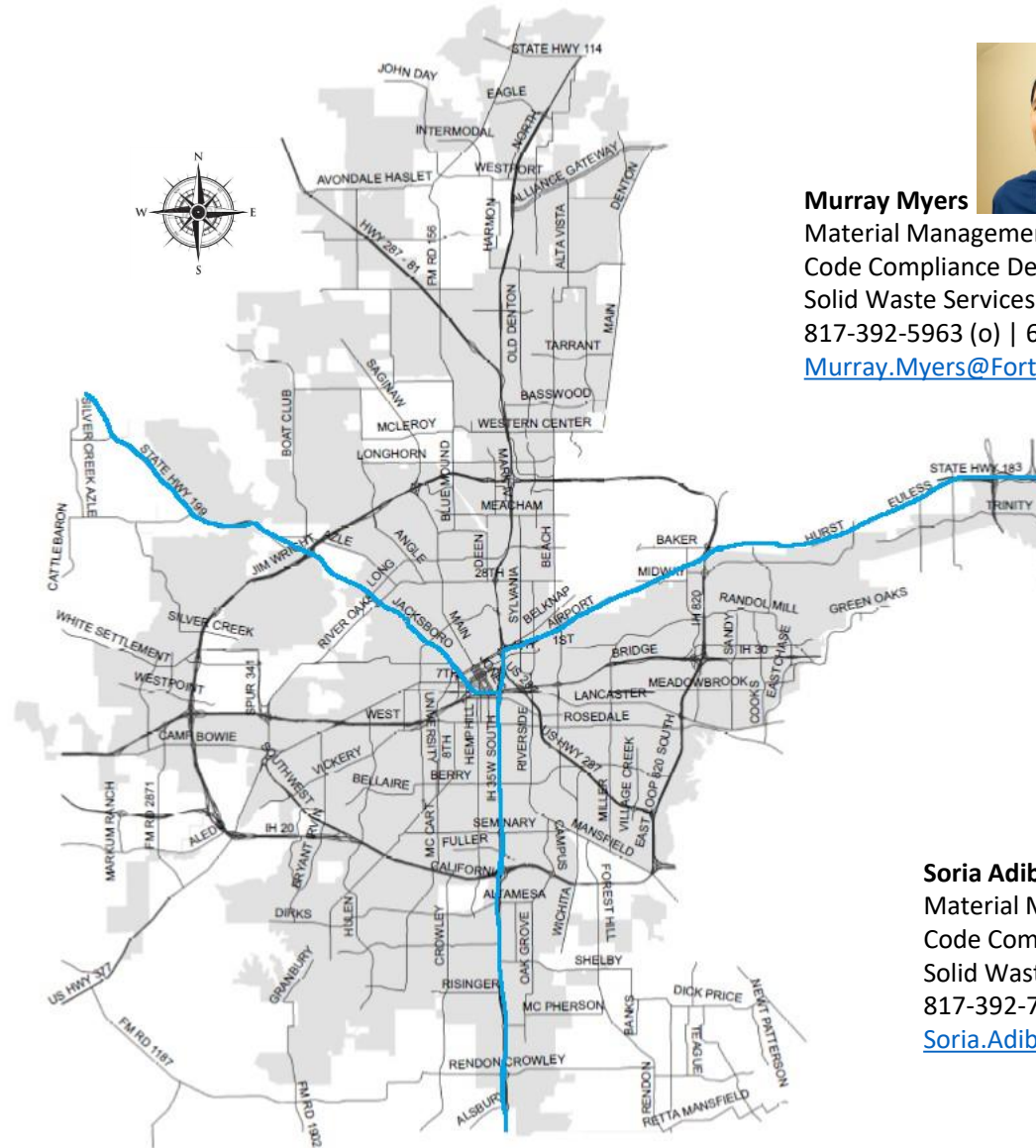
Recognizing that the Southeast Landfill (SELF) is being filled up with some materials that do not belong in there, the MMP program was formed in July 2017 to **divert materials away from the SELF that can be either re-used, recycled, mulched or composted.**



MMP Territories



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Material Management Program – Cont.

The MMP provides technical assistance, information, and resources to residents as well as businesses, institutions, the school district, multi-family complexes and industry (altogether known as the ICI Sector)

- Residential Sector
 - Increase participation in the recycling program
 - Reduce contamination of the recycling material
- ICI Sector
 - Increase overall diversion according to the CSWMP's schedule

ICI Strategic Efforts

- Develop waste reduction strategies/partnerships with school, businesses, and large producers of waste in general
- Encourage local private and public partnership
- Promote re-use
- **Expand diversion/recycling of single-stream recyclable materials**
- **Implement a commercial scale composting operation in Fort Worth**
- **Facilitate the diversion of construction & demolition (C&D) materials**
- Engage key stakeholders in Focus Groups

Reasons for Businesses to Participate in the Program

- We are in this together – the challenges and solutions faced by Fort Worth demand from us all our concerted participation
- Be a leader in your industry
- Businesses like yours have told us recycling is good for their brand perception
- Bottom Line: Recycling may save you money

Become a leader in environmental practices while improving your bottom line. Recycling makes sense for your business, your employees, your customers and the City of Fort Worth

Services Provided Free of Charge to Businesses

- Visual/manual assessment of the waste to identify materials to be diverted
- Customized diversion plans
- Business and custodial personnel education and training
- Information on local recyclers, mulchers, composters, and construction and demolition debris processors
- Facilitation/coordination of businesses and service provider's interactions
- City recognition and certification of particular successes

Financial Impact

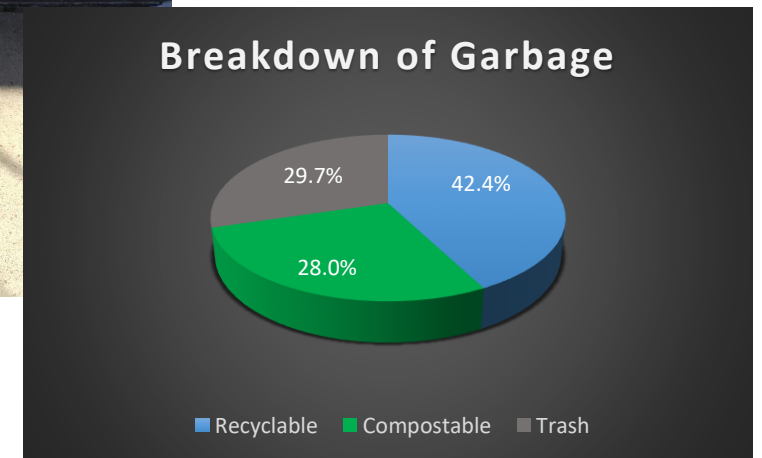
- Potential Savings

- Cost savings from reduced volume of garbage, and consequent reduction in size of garbage container:
 - ❖ Due to increased volume of materials being recycled
 - ❖ Due to increased volume of materials being composted
- Reduced frequency of pickup

- Potential Costs

- Cost of any additional recycling container
- Cost of signage and extra hallway or deskside recycling receptacles
- Cost of training staff and custodian service
- Increase in labor cost due to new recycling program
- Possible cost of clear plastic bags for new recycling program

MMP Team Recently in Action



Q&A Session

THANK YOU!

