

Solid Waste Management Plan of Washoe County 2016



Prepared by the Washoe County Health District, Waste Management Program

November 2016

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

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Acronyms

C&D	Construction and Demolition
CTH	Castaway Trash Hauling, Inc.
DBOH	District Board of Health (Washoe County)
EHS	Environmental Health Services
EPA	United States Department of Environmental Protection
FY	Fiscal Year
GID	General Improvement District
IDTF	Illegal Dumping Task Force
IVGID	Incline Village General Improvement District
KTMB	Keep Truckee Meadows Beautiful
LRL	Lockwood Regional Landfill
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDT	Nevada Department of Taxation
NRS	Nevada Revised Statutes
PSA	Public Service Announcement
SVHD	Southern Nevada Health District
SW	Solid Waste
SWM	Solid Waste Management
SWMA	Solid Waste Management Authority
TS	Transfer Stations
USDA	United States Department of Agriculture
WC	Washoe County
WCHD	Washoe County Health District
WCSD	Washoe County Sheriff's Office
WMP	Waste Management Program
WTE	Waste To Energy

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EXECUTIVE SUMMARY

In 1991 the Nevada State Legislature passed Nevada Revised Statutes (NRS) 444.510 which required the Washoe County Health District to produce a solid waste management plan and update it no less than every 5 years. All updates must be submitted to the Nevada Department of Conservation and Natural Resources for review and approval. The Washoe County Solid Waste Management Plan would contain descriptive statistics on the current status of the solid waste management and hazardous waste programs, disposal and recycling trends; serve as a community-wide needs assessment for services and programs and describe progressive tools, technologies and pertinent issues for future advancement of the solid waste system. To manage federal solid waste mandates, the State Legislature passed NRS 444.580 which gave the District Board of Health the ability to pass regulations to create a solid waste system that was able to manage solid waste and make available proper disposal sites. As a result, the Solid Waste Management Program was created and given the responsibility of producing and updating the Washoe County Solid Waste Management Plan.

When the original Washoe County Solid Waste Management Plan was written in 1991, solid waste management was still in its infancy in Washoe County and landfilling was, and still is, the preferred and cheapest disposal method. By restricting the disposal avenues for different waste streams, the door was opened for innovation, the development of new industries and forever influenced the way most jurisdictions looked at waste. Landfilling could no longer be the catch-all for difficult waste streams or unknowns; all these new regulations forced communities to take a hard look at the refuse they produced and reevaluate their relationship with garbage.

In the twenty years since the first Solid Waste Management Plan was written, solid waste management has become a science and an evolving multi-billion dollar industry; collecting and disposing of refuse is only one facet of this dynamic field. The Washoe County Solid Waste Management System infrastructure has expanded to meet some of the growing needs of the community, comply with new solid waste legislation and stay abreast with current solid waste trends both regionally and nationally. Typical municipal garbage and rubbish is managed with local haulers, but private businesses have led the way in managing the more obscure and difficult streams including hazardous waste, universal waste, electronic waste, biohazardous waste and other textiles. Private businesses have also been pivotal in increasing the County's diversion rate by applying progressive technologies and creating more outlets for recyclable materials.

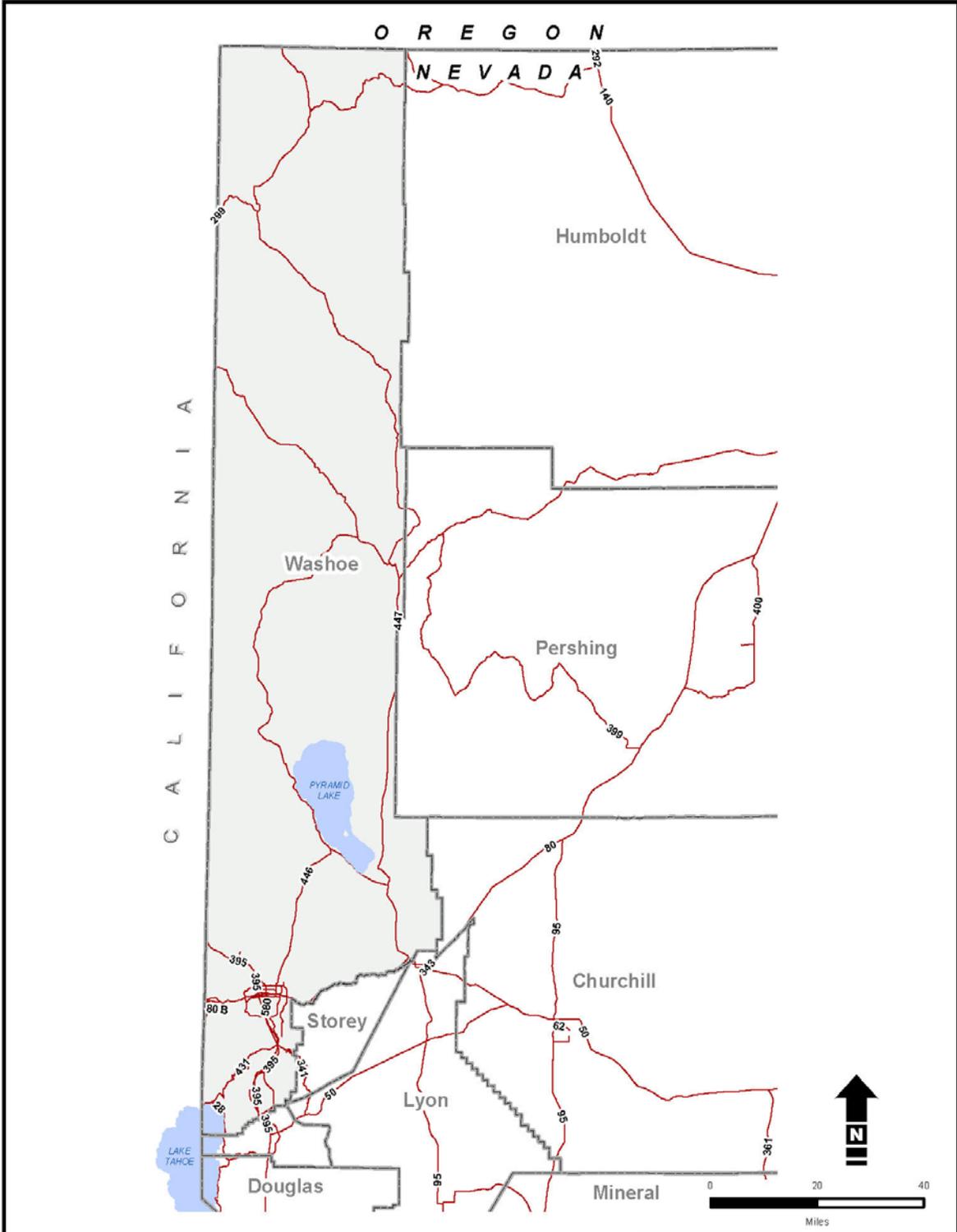
After the 1996 Washoe County Solid Waste Management Plan, there would not be another update until 2011. This update was very descriptive in nature as the data available for Washoe County solid waste generation was limited and scattered, so true projections of solid waste generation could not be produced. Prior to the 2011 update, the population had been decreasing in Washoe County, primarily because of the effect of the recession, however, since that time population has increased every year, since 2009. Likewise, there has been an overall increasing trend in Municipal Solid Waste (MSW) generated and recycling in Washoe County through 2009. Volumes of MSW generated and recycled have fluctuated thereafter, year to year, and they will probably continue to do so primarily because of WM franchise agreements with City of Reno and City of Sparks and the use of single stream recycling programs. Washoe County has yet to come to an agreement with WM for a franchise agreement of their own, but implementation of these programs have effects on how recycling numbers are reported due to customer acceptance, use and/or misunderstanding. Projections indicate reliance on gaming and the construction industries for economic recovery are unrealistic. Solid waste generation is tied to economic conditions; therefore diversifying both economically and in the solid waste management field is the key to long-term recovery. Garbage service is mandated throughout Washoe County while recycling is still an optional service offered through the local franchised waste haulers. Other recycling outlets and services for the recycling and disposal of household hazardous

waste, composting, green waste, textiles and tires also exist in the community. Most of these augmented services are offered by private businesses and have helped increase Washoe County's diversion rate to above 30% which is similar to the national rate. Though many diversion outlets exist in the community, they are scattered and usually carry a fee to drop off or collect waste and recyclables.

Illegal dumping has been a persistent nuisance in the community even though it was not addressed in the 1991 or the 1996 update of the Solid Waste Management Plan. Illegal dumping has the potential to be very damaging to the environment and costly for tax-payers to clean-up. There are local non-profits that focus on combating this issue, but they usually operate with limited budget. WM offers free dump days to residents of unincorporated Washoe County through the year as stipulated in the garbage franchise agreements which have been very popular. Additionally, City of Reno and City of Sparks residents have the ability to use four free trips to the transfer stations, per year, as part of the aforementioned Franchise Agreements with those two entities, where bulky items and household waste can be disposed of free of charge, provided the owner is current on their WM bill. However, despite the resources available to residents and organized clean-up efforts, illegal dumping remains an issue throughout Washoe County.

The management of solid waste can be influenced prior to disposal, even before the consumer has produced waste. Source reduction and procurement practices can be effective in reducing solid waste generation or altering the composition of waste streams. Institutional source reduction programs can be found throughout the County, but community-wide focuses have not been imitative outside of events sponsored by local non-profit organizations. Solid waste and recyclable materials can also be managed between the generator and disposal/treatment. Different methods to pick-up recyclable material and municipal waste can alter the recovery rate of materials and dictate future development of recovery and recycling facilities. The most popular facilities for recyclable material recovery are called material recovery facilities (MRFs) and they are becoming an essential component to increasing recycling, diversion and profit. In 2016, WM began construction of a new MRF to serve this community.

This 2016 Washoe County Solid Waste Management Plan serves two purposes; one, to inform the reader of the regulatory and contextual factors that led to the genesis of local solid waste management, and two; provide information on the current status of the solid waste management system of Washoe County including the programs which are fully implemented and those areas or programs which are under development or in need of being emphasized. The common theme of the 2016 Plan is to emphasize new techniques, technologies and ideas which the SWMP can incorporate into the system to make it more progressive, efficient, beneficial, cost-effective and accessible for residents and businesses.



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WASHOE COUNTY VICINITY MAP

WASHOE COUNTY HEALTH DISTRICT
HUMBOLDT COUNTY HEALTH DISTRICT

FIGURE 1.1

Geographic Information Systems / Technology Services



1001 E. 9th St
Reno, Nevada 89520

DATE: May 2016

CHAPTER 1

INTRODUCTION

1.1 CONTENTS AND ORGANIZATION

The Washoe County Solid Waste Management Plan (hereafter called the Plan) has been developed by the Washoe County Health District (WCHD) acting as the Solid Waste Management Authority (SWMA) for Washoe County in accordance with the Nevada Revised Statutes 444.510. The Waste Management Program (WMP) of the WCHD is responsible for writing, updating and enacting this plan within Washoe County. This Plan contains a written description of the current solid waste trends of Washoe County. The end of each chapter includes a list of objectives developed to address areas where the WMP wants to concentrate its efforts over the next five years or to address shortcomings outlined in the respective chapters. A summary of the information included in each chapter of the report follows:

A. Chapter 2: Solid Waste Generation

It provides information on the generation of solid waste excluding hazardous waste in Washoe County. This chapter contains information and discussion regarding the current waste generation rates for the residents of Washoe County based on tourism, imported & exported waste, and finally recycled (and diverted) waste.

B. Chapter 3: Overview of the Solid Waste Management System

Outlines the current solid waste collection system and transportation. Solid waste facilities and services are identified as well as the current recycling, composting, liquid waste, waste tire management and medical waste treatment programs.

C. Chapter 4: Public and Community Outreach

Discussion about how the WMP disseminates information to the public about solid waste issues, problems and programs in Washoe County. Also current limitations to expanding public education and conducting internal program evaluations of the Waste Management Program.

D. Chapter 5: Financial Sustainability

Describes the different funding sources of the Waste Management Program. It also outlines the restrictions of these funding sources in regards to administration and expansion of the program both internally and for public outreach.

The 2011 Plan had a chapter pertaining to the Washoe County Emergency Debris Management Plan. This Emergency Debris Management Plan is currently being updated and therefore is not included in this Plan. Please contact the Washoe County Emergency Management and Homeland Security Department for all inquiries regarding the Washoe County Emergency Debris Management Plan.

CHAPTER 2

SOLID WASTE GENERATION

2.1 INTRODUCTION

There are three SWMA's in the Nevada; the Nevada Division of Environmental Protection (NDEP), Southern Nevada Health District (SNHD) and the WCHD. The NDEP receives its authority from the NRS 444.440-444.654 and the State Environmental Commission. The SNHD and WCHD have their authority derived from their respective Board of Health and the above referenced NRS to oversee and manage the solid waste system in their individual jurisdictions. As the SWMA of Washoe County (WC), the Waste Management Program (WMP) of the WCHD collects data on local SW generation as it is important for resource management and long-term planning for both the WMP and community stakeholders. A list of all enabling statutes and regulations can be found in the include appendices. This data allows WMP to see SW generation trends highlight community needs and impact to local SW facilities such as transfer stations (TS), landfills, recycling facilities and other disposal outlets.

This chapter details current SW generation trends in WC including MSW disposed at the Lockwood Regional Landfill (LRL) sited in Storey County, NV, recycling activity and SW generation projections. The chapter also outlines total recycling tonnage and trends based on the WC recycling reports submitted to the NDEP. As a point of clarification, SW includes MSW, construction & demolition waste and other waste streams that are not removed for recycling.

2.2 CURRENT GENERATION

A. Generation Rate

1. Residents of Washoe County

The WC population was 436,797 in 2014 and is projected to grow by 1.4% over the next 5 years adding estimated 6,000 to 8,000 residents to the community ¹ Understanding population changes is pivotal to understanding overall waste generation rates. The SW generation data is based on records that are kept by Waste Management, INC. (WM), NDEP, WCHD and the Pyramid Lake Paiute Tribe Environment Department. The vast majority of the SW disposed from WC is landfilled at the LRL. The SW generation information from WM includes disposal records from LRL and incorporates data from the transfer stations (TS) owned and operated by WM. Two of these TS facilities are located in Reno; the others are located in Incline Village. Waste disposed of at the LRL is organized into three categories: compacted commercial vehicles, uncompacted commercial vehicles and private vehicles, uncompacted.

All MSW landfilled in the LRL from WC is first collected and consolidated at one of WM's TSs. Quarterly landfill tonnage reports are provided by WM to NDEP and other counties that use the LRL for disposal including WC. The WCHD also requires WM to submit annual TS tonnage reports² as a permit condition to operate as a SW hauler and TS operator.

¹ Nevada State Demographer's Office, Nevada County Population Projections 2014-2033, October 1, 2014.

² Solid Waste Disposal Reports, 2009-2014, compiled by Washoe County Solid Waste Management Program.

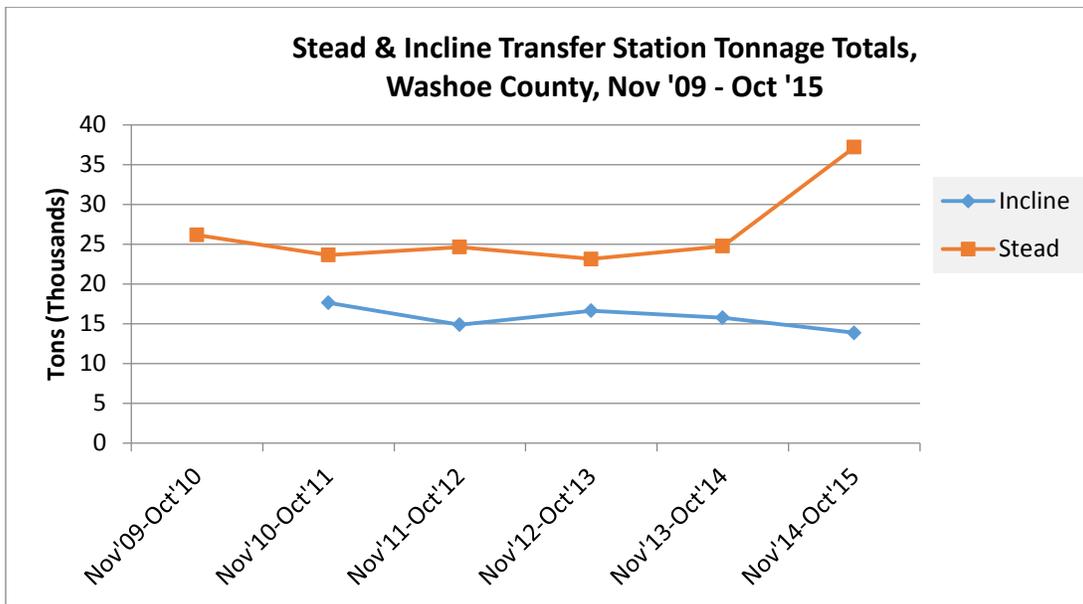
The remaining SW generated wastes within WC are hauled to either the Russell Pass Landfill located outside of Fallon Nevada or the Carson City Landfill. This SW is captured through SW hauler reports filed by permitted SW haulers through the WMP. Auditing or verifying this information is difficult based on the inability to cross reference reporting with other regulatory agencies or the landfills themselves.

There are five main TS's in WC that receive waste from WC waste generators; three are operated by WM, one in Gerlach is operated by the Gerlach GID and the fifth TS is operated by Nevada Recycling and Salvage LTD. The four TS's permitted to accept garbage and other putrescible wastes are commonly called: Sage Street, Stead, Incline Village and Gerlach. Waste entering the TS's is not weighed but is consolidated and weighted prior to being transported to the LRL for disposal.

Of the WM operated TS, two of the three experienced waste increases. The Sage Street and Stead TS documented an approximate 7% increase from late 2009 to late 2015, whereas, the Incline TS documented a decrease in the amount of waste accepted at its facility. The Gerlach TS data is not represented below due to incomplete records.

The one independently owned and operated commercial TS only accepts nonputrescible, SW and recyclables from commercial customers which does not require special handling or permitting as required by the WMP. In 2015 this facility transported over 86,000 tons of commercial SW to Russel Pass Landfill for disposal. Due to inconsistent tonnage reporting and lack of historical data for waste shipped for disposal, this TS is not shown in Graph 2.1 for comparison.

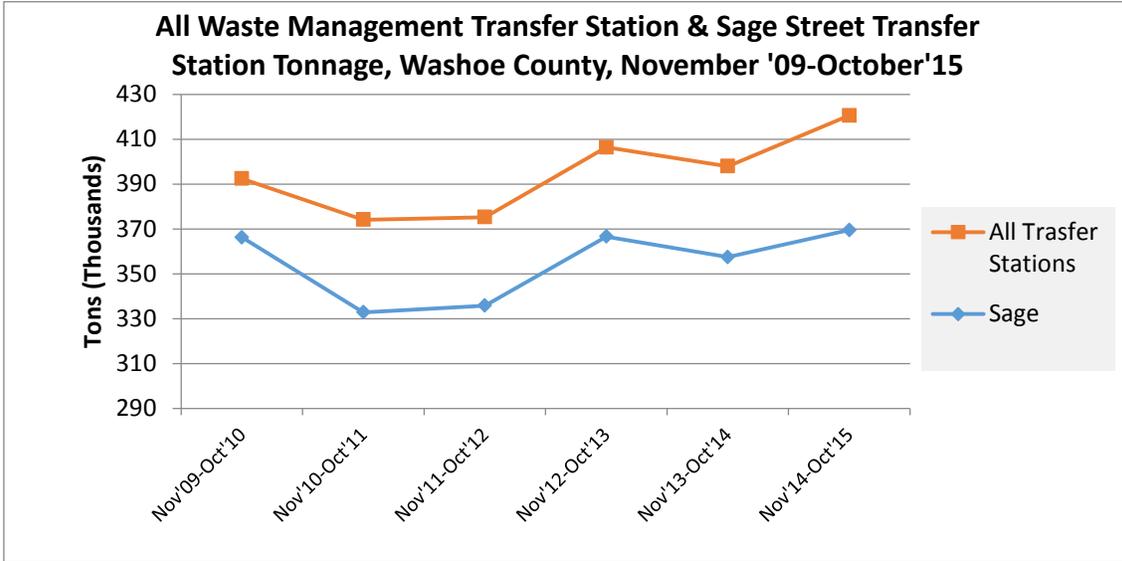
Graph 2.1 Stead & Incline Transfer Station Tonnage Totals



A marginal volume of the MSW derived from the Pyramid Lake Paiute Tribe Reservation within WC but there will be no in-depth discussion of this waste stream in this Plan as the WMP does not regulate any of the tribal lands. Based on email correspondences with Benjamin John, Director of Pyramid Lake Paiute Tribe Public Utilities, only 1,200 tons of waste has been generated from these lands in the last 5

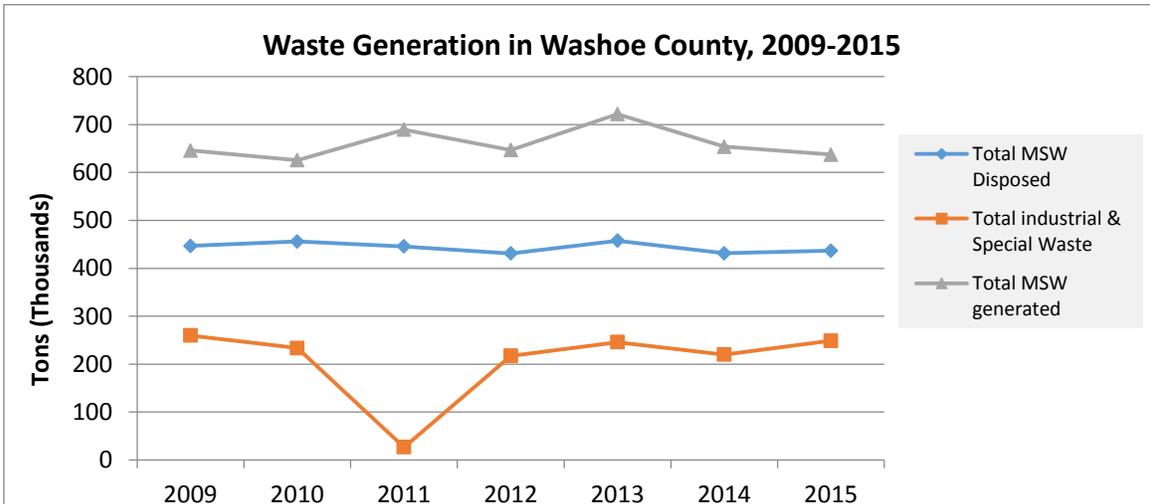
years. This waste is disposed of at waste bins that are located in Nixon, Sutcliffe and Wadsworth per the Pyramid Lake SW Ordinance³ and disposed at Russel Pass Landfill outside Fallon, Nevada.

Graph 2.2 All Trasfer Station & Sage Street Transfer Station Tonnage Totals



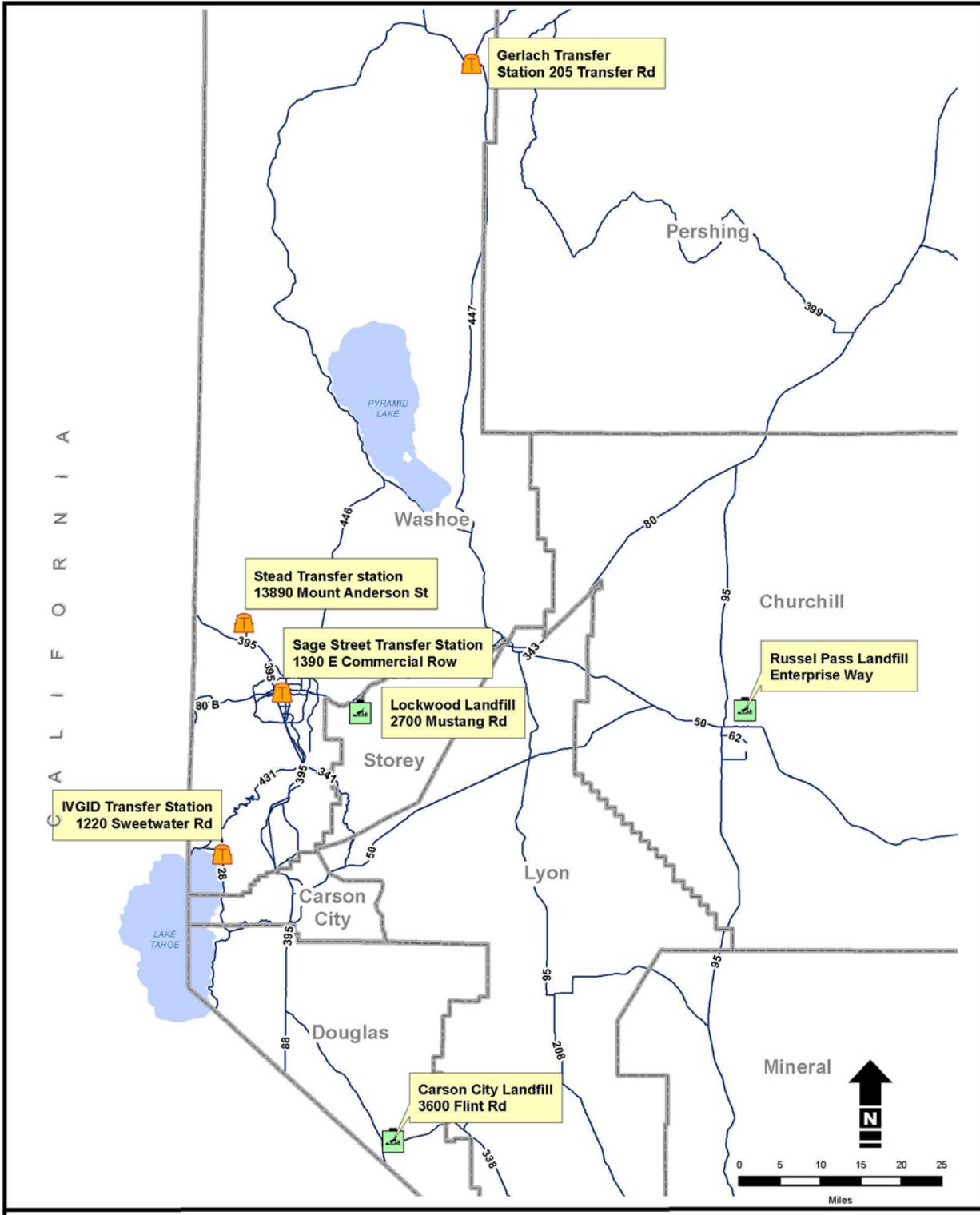
The SW generation has been relatively stable in WC from the last Plan update in 2011 to 2015. The slight increase in industrial and special waste disposal may be due to the elevated issuance of construction and building permits since 2014 in WC⁴. Total MSW has also had a slight decrease from October 2013 to October 2014, which may be attributed to the implementation of single stream recycling in the City of Reno where most of the WC residents reside. The increases in MSW in from October 2014 to October 2015 may be attributed to the strengthening local economy.

Graph 2.3 Municipal Solid Waste Generation in Washoe County



³ Pyramid Lake Paiute Tribe Utility District Solid Waste Ordinance <http://plpt.nsn.us/pud/policy/wasteordinance.pdf>, Retrieved on March 12, 2016.

⁴ City of Reno, City of Sparks, Washoe County and Incline Village municipal building permit issuance records.



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WASHOE COUNTY TRANSFER STATIONS & LANDFILLS

WASHOE COUNTY HEALTH DISTRICT
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FIGURE 2.1

Geographic Information Systems / Technology Services

1001 E. 9th St
 Reno, Nevada 89520



DATE: August 2016

The per capita SW generation rate for WC is nearly double the national rate of 4.38 lbs/day/person⁵. Crude calculations for the WC estimate the per capita MSW generation is 7.9 lbs/day/person. However, this is less than the State of Nevada average of 8 lbs/day/person⁵. These generation rates may be elevated compared to the National average due to cheap disposal cost and lack of government mandated diversion rates. Both Nevada's strong tourism industry and the population growth may be impacting or causing the elevated the per capita SW generation rate.

2. Tourism Estimates

There has been a turnaround in the tourism rates since the 2011 Plan. A visitor count estimate^{6,7} from Reno-Sparks Convention and Visitor Authority along with information from the University of Nevada, Las Vegas (UNLV) Center for Business and Economic Research of visitor's volume has shown a 7.9% increase in the number of visitors to WC from 2011 to 2014. This follows a 17.5% decline in tourism from 2005 to 2011 during the national recession. Increases in tourism may directly lead to increases in local SW generation through both wastes generated from local special events (e.g., Nugget Rib Cook Off) and from increased hotel/motel utilization. It is estimated that on average, hospitality guests generate up to 2.2 lbs of SW per day⁸, so increases in local tourism rates will increase the WC overall waste generation.

3. Construction

Increases in construction and demolition (C&D) disposal (and potentially diversion) may also be affected by increases in construction in both the residential and commercial realms. Revival of the local economy, as with the national economy, has resulted in an uptick in the issuance of building permits in WC. A number of large companies including Amazon, Apple and FedEx have begun or finished construction of large facilities in WC which may have increased local business interest. Overall, the combined construction building permits issued for all included entities increased roughly 37% from 2013 to 2015⁹.

B. Waste Flow Impacts to Washoe County

Currently, there is no MSW imported into WC for direct disposal as there are no permitted or approved disposal facilities in WC. Waste generated in WC is consolidated at a TS and then exported to the LRL for disposal. However, there are biohazardous waste streams which are imported into WC for treatment (e.g., autoclaving) which are then transported to LRL for land disposal. There are four facilities in WC that can treat biohazardous waste though only two of them accept waste that is generated outside WC. Based on phone conversations with the District Manager for WM roughly 75% of the biohazardous waste treated at the WM facility is from WC and the remaining from outside WC.

Detailed data about the WC MSW stream composition is not publically available at this time, so it is impossible to compare the local MSW stream to the national or other regional waste streams.

⁵ Advancing Sustainable Materials Management: Facts and Figures 2013, USEPA 2016.

⁶ Estimated Visitor Counts for Reno-Sparks and Washoe County Area, (2007-2015) RSCVA, https://www.visitrenotahoe.com/docs/8_-_Visitor_Counts_-_February_2016.pdf, Retrieved on March 3, 2016.

⁷ Annual Data, UNLV Center for Business and Economic Research, 2010-2014, <http://cber.unlv.edu/WCEconData.html>, Accessed on March 3 2016.

⁸ Pirani S. & Arafat H. (December 2014) *Solid Waste Management in the Hospitality Industry: A Review*, Journal of Environmental Management.

⁹ City of Reno, City of Sparks, Washoe County and Incline Village municipal building permit issuance records.

Understanding what WC residents put into their trash may be useful to determine local disposal needs and potential economic development of alternative disposal technologies or outlets.

Waste generation in WC is likely to increase due to a growing population, tourism visits, construction and a strengthening local economy. Increases to waste generation will affect the local franchise collection system and may increase the need for access to facilities such as TS's, drop-off recycling site at Commercial Row and possibly to LRL by the general public. Limited hours and days of operation has been a historical complaint voiced by the public for these facilities, specifically for the transfer stations which may directly affect illegal dumping frequency as access becomes more limited. WM also does not maintain a local contact number for customers and are usually routed to a customer service agent based in California. Local residents have found it difficult to use this WM resource to get information about local recycling, diversion and general waste outlets. The local garbage franchises will need to address these issues and make reasonable accommodations to address increasing demand for these services by the public. The public also needs to be aware the WCHD does not have any control over any of the franchises negotiated within WC, and likewise does not enforce the local franchises.

C. Recycled and Diverted Materials

There are two main avenues for recycling (and diversion) in WC; curbside recycling services offered by WM who is the franchised recycling hauler, and local commercial recycling or diversion businesses. Residents in multi-family units such as apartments may not have access to curbside services but are dependent upon the rental property to provide this access. In 2012, the WMP staff conducted focus groups to study¹⁰ the recycling behaviors of WC residents including those living in multi-family units. The study found that access to recycling or diversion options was limited to this population. Increasing the local recycling rate may require more attention to residents who do not live in single-family dwellings, especially since there is an increase in the construction of multi-family units. Implementation of single stream recycling has alleviated some of the barriers to participants living in single-family homes, but apartment residents still face similar barriers to recycle.

Though many counties and municipalities across the State calculate their own recycling rates, there are two SWMA's that must report to NDEP for annual reporting. The recycling rates of these three are shown below in Figure 2.4 and are compared to the overall State average and National average. Based on the WC annual reports submitted to NDEP, the recycle rate for WC in 2015 was 31.5% and has been decreasing since it peaked in 2013 at 36.5%⁷. The 2015 recycle rate is below the 2013 EPA national average of 34.3%, but above the 2014 Nevada average of 23.4%. WC has exceeded the State of Nevada recycling goal of 25% recycle rate since 2008.

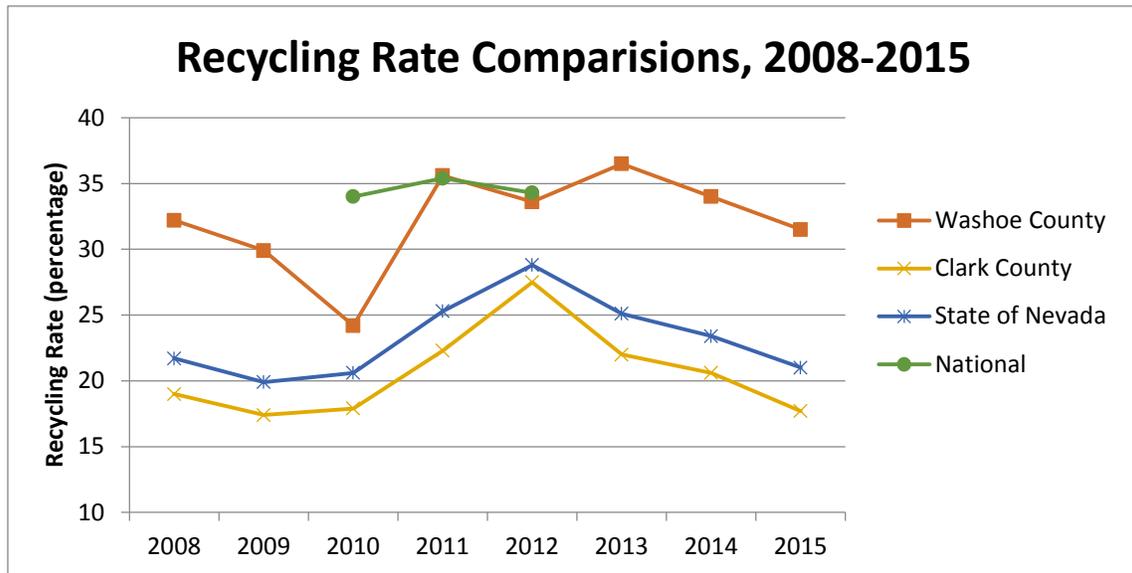
The reduction of the recycle rate may be attributed to various factors including changes in the recycling stream composition and report since the 2011 Plan. Since the implementation of single stream recycling in City of Reno in 2013, this waste stream has been reported differently to the WMP for the annual WC recycling report than in years past. Individual recyclable commodity streams were reported to the WMP, all the single stream volumes from WM are inclusive of all materials. Another reason could be changes to the commodities markets and economics surrounding recycling costs to proactively and voluntarily recycle. For example, in 2014 and 2015 the price for scrap metal was relatively low compared to years past, which may limit the amount of metal purchased by recyclers or waste brokers.

¹⁰Bryant L. & Brown E. (2012) *Recycle Focus Groups: Understanding the Recycling Behaviors and Barriers in Washoe County*.

It may be attributed to an inconsistent collection of recycling information from local businesses as they are not required to report recycling activities to the WMP or any other regulatory entity. Based on email correspondences from WM staff, 11% of the recyclables from single stream curbside collection are contaminated by other wastes, which therefore mean the recyclables are not collected. This loss of volume may affect the overall recycling rate and suggest a continued and ongoing need to educate customers on how to properly segregate recyclables using the single stream system.

The overall recycling rate may have also been affected by the loss of a local trash hauler (Castaway Trash Hauling Inc. (CTH)) which also collected recyclables and diverted materials, from commercial and industrial generators. This business was sold to WM and had maintained significant number of local customers and received large volume of recyclables from commercial customers. The recent City of Reno franchise agreement has language to include two zones, which had been written to give CTH a portion of the commercial franchised waste stream within the local SW management system. With the acquisition of CTH, Reno has effectively reverted back to one franchised waste hauler under their current franchise agreement, which was confirmed by the City of Reno Assistant City Attorney. There has been a dramatic reduction of metal recycled in the last five years, which is half of the recycled material in WC. The WC recycling rate is calculated from self-reported tonnage from local commercial companies, so incomplete data could be affecting the overall recycling rate. The reduction could also be reflective of the WMP continued efforts to not double count any reported metals volumes. The reduction in reported metals recycling must be looked into over the next five years.

Graph 2.4 Recycling Rate Comparisons



D. Future Quantity of Solid Waste

The biggest producers for the SW in WC are those residents in single-family homes, based on tonnage reports from the local franchised garbage hauler. The US Census reported¹¹ in 2014 the WC population was 440,078 and has been steadily growing at a 3.45% increase since 2011. An increasing population, coupled with the increase in tourist visits and construction projects, is very likely to produce

¹¹ Washoe County Population Estimates, US Census Bureau, 2014 <http://www.census.gov/quickfacts/table/PST045214/32031,00>.

an increase in the volume of SW generated in WC for disposal in the LRL, Carson City and Russell Pass Landfill. However, the implementation of single stream recycling in the City of Reno in 2013 and City of Sparks in 2016 may have a more measurable impact in the MSW stream and in-turn, reduce the SW landfilled.

Graph 2.5 Recycling Stream Composition

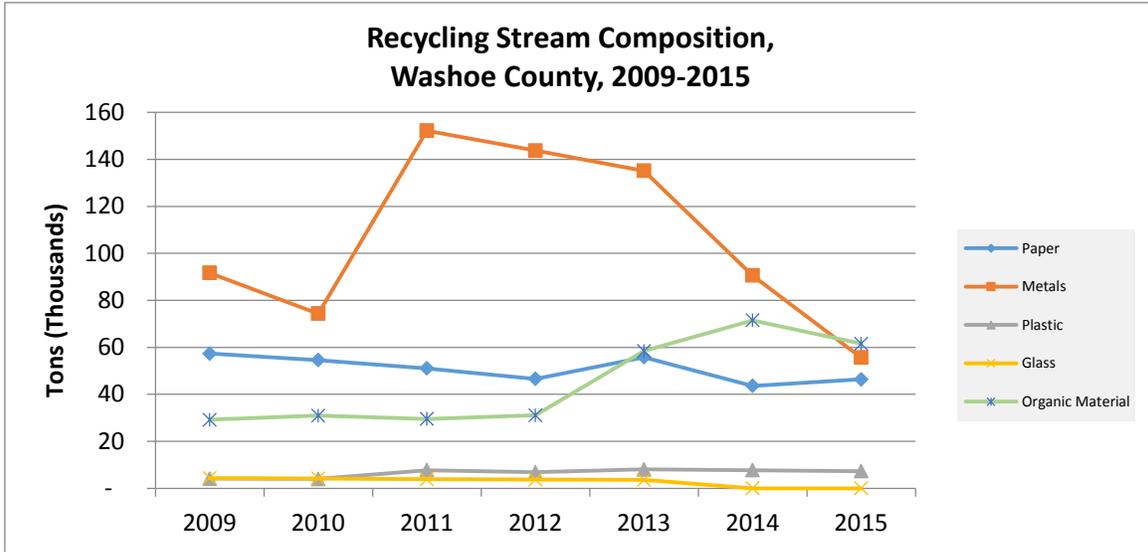
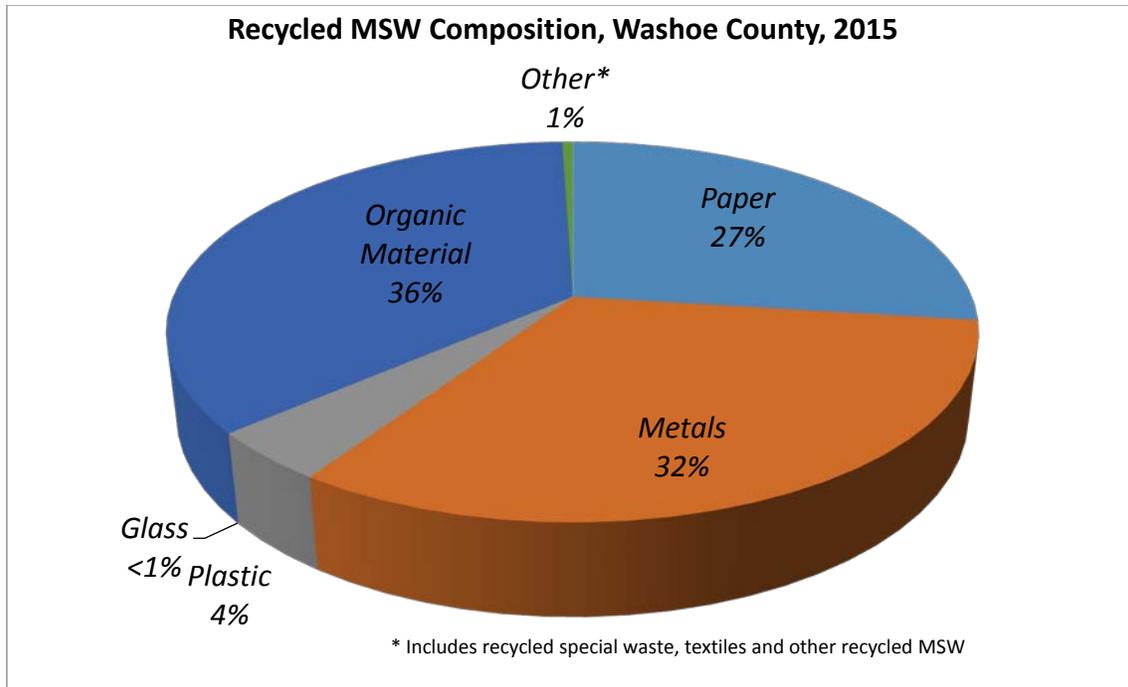


Chart 2.1 Composition of 2015 Recycled Materials



2.3 CHAPTER OBJECTIVES

A. Current Generation

- WCHD should maintain a data base of all tonnage reports and other waste reporting data for ease of future analysis
- WCHD should work with regulatory partners to better capture the volumes of waste actually produced in WC
 - Build better lines of communication with the other two SWMA's
 - Work with nonprofits and the other SWMAs to build a more comprehensive public education program regarding waste generation and how to possibly reduce it in WC and Nevada
- Conduct a waste stream compositional study of the WC waste stream
- Conduct a needs assessment to determine additional means to increase the WC recycling rate for both residential and commercial residents
- Develop ways for multi-family dwellings to increase/develop ways for them to participate in recycling
- Work with local hospitality businesses to determine the average solid waste generation for visitors

B. Waste Flow Impacts to Washoe County

- Analyze the impact of small haulers in the area and where they transport waste
- Work with NDEP to obtain complete data of SW transported to Russel Pass Landfill and Carson City Landfill from WC for disposal
- Determine whether any other wastes are imported into WC for disposal outside of biohazardous waste
- Educate the general public regarding the responsibilities of the entities which negotiate the local franchise agreements
 - Determine if current franchise agreements prevent better management of waste streams or hinder diversion efforts
 - Determine if current franchise agreements adversely affect the WC recycling rate

C. Recycled and Diverted Materials

- Partner with local business to bring more green initiatives and opportunities to local events and community programs
 - Create or initiate a comprehensive waste audit program for the reduction of SW in WC
 - Work with governmental agencies to create a comprehensive purchasing program to reduce SW generation and buy recycled products
- Conduct studies or needs assessments of residents to determine the SW generation behavior and barriers for waste reduction
- Develop a SW disposal reporting system or reporting form to collect consistent data from the franchised hauler and other independent waste haulers to ensure all permitted parties are reporting in the same manner
- Meet with WM and discuss increasing TS, recycling and LRL operational hours to meet potential growing demands of the general public's SW needs

CHAPTER 3
OVERVIEW OF THE SOLID WASTE
MANAGEMENT SYSTEM

3.1 INTRODUCTION

This chapter of the Plan provides a description of the current SW management system in WC. This chapter includes a description of the different waste collection methods, the regulatory requirements for services and a description of the disposal system. The current major focus of the WMP is in the area of collection, transport and processing of the SW stream.

3.2 SOLID WASTE GENERATION

A. Collection Requirements

The NRS 444.510 requires every municipality with a DBOH to develop a SW management system which includes a system to collect and dispose of garbage. There are five entities in WC: the Cities of Reno and Sparks, Incline Village and Gerlach General Improvement Districts (GIDs) and unincorporated WC which fall within the prevue of the DBOH. Each of these entities has the privilege to negotiate a franchise agreement with a third party company for collection and disposal within their respective jurisdictions. The franchisee is then granted certain rights to the collection, transport and ultimately disposal of all garbage waste streams. The franchisee must determine appropriate collection routes to meet the minimum requirement of seven day garbage removal in all areas of WC (see appendix B for franchise agreement information).

Table 3.1 Current Franchise Agreement Terms in Washoe County

	Agreement Effective Date	Agreement Expiration Date
City of Reno	11/07/2012	11/07/2029
City of Sparks	10/28/2015	06/30/2028
Incline Village GID	07/07/2016	06/30/2026
Washoe County*	12/12/2000	12/2/2016 [§]

* Includes coverage of Sun Valley GID

§Original agreement expired in 2015, but two six month extensions were granted

All residences in WC are required to subscribe to garbage service with the franchised hauler. However, WCHD can grant an exemption for garbage service if the applicant for exemption meets specific criteria (e.g., vacant property, no garbage self-haul, etc.) as outlined in the *Regulations of the Washoe County District Board of Health Governing Solid Waste Management*. Any exemption request which may violate the various negotiated franchise agreements of the various entities must have the support of the entity of which it is applied in. Furthermore, it is noted the original intent of the exemption process was for individual residences and customers. Over the past decade, this process has seen the applicants include various business and commercial entities. Attempts by the WMP to educate

and have the language of the various franchises clarify this issue have been unsuccessful even with the support of WM.

As described in Chapter 2, WM and their local subsidiaries are the garbage franchise holders for all the individually negotiated franchises within WC. Each contract has differences regarding service levels, pricing and recycling services. The franchised waste hauler is the only SW hauler permitted by the WCHD to transport and dispose of garbage and other putrescible wastes within WC.

The WMP requires permits of all businesses operating waste and recycling hauling services within WC. This permitting includes those businesses which transport and dispose of C & D, trash, rubbish, recycling, biohazardous waste, liquid wastes, asbestos containing materials, and other special wastes as outlined in regulation. The WMP staff use new business license applications for finding out when new hauling businesses are starting up within WC. The program needs to continue to educate the general public and business community of the need to utilize properly permitted waste haulers to ensure the proper and safe transport and disposal of the solid wastes they generate which will ultimately protect the environment and the community.

B. Solid Waste Facilities

1. Transfer Stations

All MSW generated in WC is required to be processed through a TS for processing prior to being transported to LRL for land disposal. The purpose for requiring the processing through TS facilities is to allow for additional load checking for wastes which are prohibited from land disposal and for the compaction and efficient transport of bulk SW to a landfill. There is one TS in WC that is not operated by WM. This facility is operated by Nevada Recycling & Salvage LTD and is located in the City of Reno; this facility only accepts trash, rubbish, C & D, and recyclable material from commercial businesses. Waste processed through NRS which is not recovered or diverted from landfilling is ultimately transported to the Russell Pass Landfill for disposal.

2. Landfills

The LRL is a class I and III landfill in Storey County off Interstate 80. It receives nearly 5,000 tons of waste daily and is operated by WM. It is the second largest landfill in Nevada¹²; the largest is Apex Landfill in Southern Nevada which it is also the largest in the United States. The NDEP permits and regulates the LRL. Based on a conversation with staff from the NDEP, the most recent report for the LRL states that its life span is over 100 years with the approved expansion.

There are no permitted landfills in WC and there are no immediate plans to build sites due to the capacity of the LRL to accommodate the need of the WC residents. Historical sites for SW disposal were discussed in the 2011 Plan but are not included in this Plan.

3.3 FRANCHISE RECYCLING SYSTEM

The NRS 444A.040 requires all counties with a population greater than 100,000 make a program available for, “the separation at the source of recyclable material from other solid waste originating from residential premises and public buildings where services for the collection of solid waste are

¹² Nevada Division of Environmental Protection. Bureau of Waste Management. http://ndep.nv.gov/bwm/landfill_lockwood.htm. Retrieved June 8, 2016.

provided[...]" All recycling services for residential customers and public areas were included in the franchise agreements with WC entities, with slight differences between the different contracts. The NRS 444A.050 also requires the WMP to report all recycled materials to the NDEP annually on or before April 1st of each calendar year.

A. Residential

All entities in WC require all residents who accumulate SW to have garbage service, but not recycling services. However, all entities in WC have negotiated voluntary recycling services for single family residences of some fashion in their respective franchise garbage agreements. None of the franchise agreements require users to recycle. These agreements also include pricing and services for commercial garbage and recycling services. All the agreements include terms for ownership of the waste, required services, pricing and term of agreement.

In late 2012, the City of Reno signed a new franchise agreement with WM for garbage service which included a curbside single stream recycling program for residential customers. This was the first time individuals who wanted to recycle no longer had to segregate their recyclable commodities while also increasing the types of materials which could be recycled, such as but not limited to cardboard, chip board, plastic food containers, etc. curbside within an entity of WC. This service included one garbage bin and one recycling bin of which all recyclables could be contained and comingled; the single stream program was implemented in 2013. City of Sparks followed in Reno by adopting the single stream recycling model for use by their customers in late 2015, implementation of their program was completed in early 2016. Currently, unincorporated WC is in the process of negotiating a new franchise agreement with WM which also has the single stream recycling model included in the proposal.

B. Drop-off Locations and Programs

WM maintains drop-off locations at all of their permitted facilities for recyclable commodities. WM has also begun the permitting and plan submittal process for the construction of a materials recovery facility (MRF) at the Commercial Row TS site; the current franchise agreement states WM will make "reasonable efforts to commence and diligently prosecute construction of the Eco-Center..." within 28 months of the November 7th, 2012 effective date. Current construction completion for this project is late 2016 or early 2017. MRF's are usually large recycling facilities where MSW or segregated recycling is delivered after collection and sorted by material type. The construction of this MRF in WC will increase the ability of WM to remove more recyclable materials from the SW stream and has a proposed area for household hazard waste collection. When completed, it will be the largest recycling facility in WC.

C. Commercial and Industrial

Though recycling is not required for non-residential businesses, all commercial and industrial customers have access to recycling services through the local garbage franchisee. Customers can contract with WM directly for recycling of commodities including, but not limited to, paper, plastic, metal, glass, cardboard and food waste. Because commercial and industrial businesses constitute a large fraction of the SW stream, mandating recycling for this sector may greatly impact the WC recycling and diversions rate and should be considered during garbage franchise agreement negotiation and WC regulations updates.

3.4 NON-FRANCHISE RECYCLING AND DIVERSION SYSTEM

A. Recycling and Diversion

The recycling rate for WC has three main components: recyclables from residential curbside recycling, commercial industrial recycling and special waste diversion. Commercial recycling and diversion outlets are the bulk of the materials represented in the WC recycling report. In WC there are 28 businesses¹³ currently permitted to conduct recycling and reuse activities from carpet to household hazardous waste. Most of these outlets accept materials from the public, but not all. For the public's benefit, Keep Truckee Meadows Beautiful (KTMB) is a local non-profit organization which maintains the most complete list of local recycling and diversion outlets (www.ktmb.org) for WC with funding provided by the WCHD. Residents can access their recycling guide on their website which is updated on a regular schedule. The SWMA actively promotes the KTMB recycling list in an effort to increase recycling efforts within WC.

B. Commercial and Industrial

Businesses who do not utilize WM for recycling services may contract with other permitted recycling businesses, waste brokers or waste reduction companies. Commercial and industrial generators of SW have not been addressed in previous Plans. In order to increase the overall WC recycling and diversion rate, a more targeted approach to the local commercial and industrial business needs to be developed, not only to capture unrepresented recycling and diversion streams, but also to explore the barriers or disincentives of these businesses to utilize alternative disposal means or initiate internal waste reduction practices. Over the next five years as part of this plan update, the WMP will work with other regulatory entities, local agencies and non-profit groups to address these issues which will include a much more broad and encompassing educational program for waste reduction and diversion programs.

There are many businesses with green initiatives or internal recycling systems that could greatly boost the WC recycling rate. Their efforts also go unrewarded and unacknowledged within the SW management system. However, Keep Truckee Meadows Beautiful does have a mechanism to acknowledge local businesses with significant waste reduction activities or that have helped in the community which has been financially supported by the WCHD for the last two years.

C. Reuse

Reuse outlets in WC are limited and data on this diversion stream is not captured adequately in the annual recycling report. Reuse outlets currently are the same as during the 2011 Plan, they include computer parts for refurbishing, clothing and other items from thrift stores, refilled ink cartridges, wrapping materials and refurbished furniture. The WM MRF is part of a larger Eco-center and may increase reuse of waste in WC to expand their current drop-off locations at the TS where items like bikes are collected for reuse or donation. The proposed Eco-center which is currently under construction will also have a public collection area for household hazardous waste and other special wastes generated by the general public. WM is considering potentially providing a reuse component to this program as a way to promote the reuse of materials which have high disposal costs.

D. Reduction

¹³ Washoe County Health District Permits, accessed June 13, 2016.

The United States Environmental Protection Agency (US EPA) has developed a hierarchy of preferred management for SW with reduction and reuse being the most advantageous diversion avenue. The WMP has not actively promoted reduction of SW streams in the community consistently for either residents or businesses. This is partially due to their function in the waste management system as a regulatory authority, but also due to limited staff resources. However, internally, WC has adopted a variety of procurement policies for recycled products (e.g., printer paper) and maintains recycling services for paper products and electronics. Many of the green initiatives or reduction efforts in WC have been organic developments from the community itself or from local organizations. A major emphasis of the program over the next five years will be to actively work with the regulated community and generators of SW to promote the reduction of waste generation and landfilling.



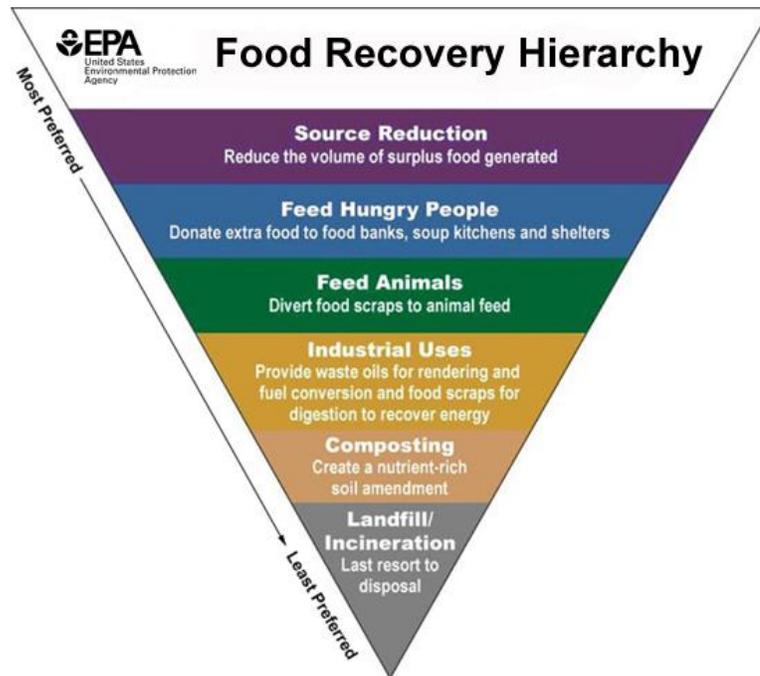
US EPA, <https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy>, Accessed June 13, 2016.

E. Composting and Green Waste Facilities

Residents of WC have very limited outlets for composting and green waste disposal. There is only one commercial composting facility permitted in WC as of June 2016 and it is RT Donovan located on Pyramid Highway in unincorporated Washoe County. Pursuant to NAC 444.6405 every resident in the State has the authority to compost on their own property without the need of a permit or regulatory oversight. Though WC does have a green waste transfer station permit type, none are currently permitted. The WC residents do not have a designated green waste container for curbside pick-up as with other parts of the country so they must either self-haul to a composting facility, compost onsite or have materials disposed as SW. IVGID residents do have the opportunity to dispose pine needles for composting during a 12 week period in the late spring and early summer. They are allowed 72 bags of pine needles for curbside pick-up and this service is included in their garbage service as negotiated in the franchise agreement. Lastly, there is one other season-specific green waste collection event that is sponsored by KTMB. It is the annual Christmas Tree Collection event where residents may drop off

Christmas trees for mulching and reuse within the community. In 2015 this program collected over 100 tons of trees that otherwise would have been discarded or potentially illegally dumped¹⁴.

US EPA, <https://www.epa.gov/sustainable-management-food>, accessed June 13, 2016



Food waste has become a hot topic in the world of SW and the United States Environmental Protection Agency (EPA) has made a call to reduce the amount of food waste in the United States. In 2013 the EPA and the USDA set a goal to reduce food waste in the United States by 50% by 2030 as part of the larger EPA Net Zero campaign to reduce use and loss of energy, SW and water¹⁵. As with SW, the EPA has developed a hierarchy for food management and recovery that utilizes many of the same management techniques to reduce food waste. In WC, food waste is addressed with composting and innovative ideas and projects from local groups including the WC Food Safety Council, individual school projects within the Washoe County School District and at the University of Nevada-Reno. However, there have been no County-wide campaigns or outreach programs to address food waste reduction activities by the WMP or the WCHD. Some local businesses have developed outlets for their own food waste or food oil/grease waste. This is an area where the WMP believes outreach and education could lead to an increase in food waste recycling. WM does operate a food waste pick-up route service for commercial customers of which waste is taken to RT Donovan for composting.

F. Waste-To-Energy (WTE)

When the 2011 Plan was written there were two WTE plants in California utilizing wood fuel from WC to produce electricity; one in Loyaltown and one in Honey Lake, California. Currently, the facility in Honey Lake is operational and is accepting biomass waste from WC. Since 2011, this facility has received 27,316 tons of material from WC¹⁶. However, due to costs of operation and diminishing

¹⁴ Keep Truckee Meadows Beautiful 2015 annual report.

¹⁵ US EPA, <https://www.epa.gov/water-research/promoting-sustainability-through-net-zero-strategies>, accessed June 13, 2016.

¹⁶ Email correspondences from Mark Shaffer, Greenleaf Power, September 12th 2016.

feedstock contracts, this renewable energy technology may not be viable in the future and limit WTE diversions outlets for WC. We were unable to gather information from the Loyaltan plant so it could not be determined if it was still in operation, furthermore, we do not have records or knowledge of WC facilities sending material to this plant.

The LRL has two generators that produce electricity from methane gas captured from the landfill. Though WTE is considered a renewable energy source, it only accounts for 12% of the SW disposal in the United States¹⁷ and zero currently in WC. However, the SW from WC and other users of the LRL produces enough methane gas to produce around 3.2 Megawatts which is enough power for approximately 2,400 households. To put this in prospective, this energy production is equal to using 14,000 tons of coal¹⁸. These generators have been in operation since 2012 and the energy produced by the generators is put back into the electrical grid. Any additional methane captured by this system is burned with the expectation more generators will be approved and installed in the foreseeable future when there is additional sustainable methane to operate a third generator.

Fulcrum Bioenergy has built an MSW processing plant and plans to build a biorefinery near LRL which will transform a MSW feedstock into a low-carbon precursor of jet fuel. This site is called Sierra Biofuels and the company's website states that it will accept nearly 200,000 tons of MSW that would have otherwise been landfilled; operations are said to begin in 2017. All of the waste diverted to this plant derives directly from WC TS's.

G. Pharmaceuticals and Biohazardous Waste

Biohazardous waste can include anything from sharps (needles) to human tissue originating from medical facilities or treatment centers. Certain types of biohazardous wastes generated in WC are treated under high pressure and temperature in steam sterilizers commonly called autoclaves to render the wastes free of potentially contagious blood borne pathogens. There are four facilities permitted in WC as biohazardous waste treatment facilities which receive waste generated from WC and a limited volume from outside WC for treatment. Once treated, the waste is transferred to the LRL for disposal. For those types of biohazardous wastes which are not capable of being autoclaved, the wastes are transported to facilities capable of incinerating the wastes. Residents can also utilize mail-in-sharps programs or can be arranged in conjunction with home care though these avenues are minimally used. Northern Nevada Hopes, local homeless shelters and the WCHD will also accept sharps for disposal from the public on a limited basis. The WCHD will provide all citizens of WC with sharps containers for the proper storage and handling of home generated sharps. Proper handling of sharps within the community continues to be a major issue within WC.

Disposing of pharmaceuticals into on-site treatment (e.g., septic tanks) or flushing down toilets into city sewer systems is not recommended as the medicines may affect aquatic life and bioaccumulate into the environment¹⁹. Properly encapsulating medicine for disposal in curbside SW is allowed when media such as coffee grounds, soil and diatomaceous earth are used, but this is not the preferred practice. Local law enforcement departments will also accept old medications and contract with a third party for proper disposal. Join Together Northern Nevada is a local coalition aimed at combatting

¹⁷ EPA, Advancing Sustainable Materials Management: 2013 Fact Sheet, June 2015.

¹⁸ Phone correspondences with Chris Anderson, PE. of Refuse, Inc. June 14 2016.

¹⁹ EPA, How to Dispose of Medicine Properly, <https://archive.epa.gov/region02/capp/web/pdf/ppcpflyer.pdf>, accessed June 14, 2016.

substance abuse in the community and hosts biannual prescription drug round up events²⁰ where residents are allowed to drop-off unused and outdated prescriptions for disposal.

H. Waste Tire Hauler and Management Facilities

Waste tires can be difficult to recycle and dispose of as they do not decompose readily, can fill with methane when landfilled, affect compaction and lastly, tire fires are difficult to extinguish and are highly toxic²¹. In light of these issues, the WCHD has adopted the State of Nevada's regulations regarding waste tires, including transport, tracking and processing. As of June 2016, there are two waste tire management facilities in WC. When the 2011 Plan was written there were none. One of the facilities grinds the tires down into smaller particulate and sells it to a rubber recycler in California, and the other facility collects tires, recycles usable ones, and shreds the remaining unusable waste tires. The shredded tires are then transported to the LRL for use as alternative daily cover and for buffer materials in trenches as part of the methane collection system at the landfill.

Handling and disposal of waste tires continue to be an issue for the WMP. Continued compliance issues with waste tire haulers are a problem within WC. Future regulation revisions will include the requirement for financial assurance for all waste tire haulers going forward. This requirement will hopefully help with the management and tracking of waste tires within WC.

I. Rendering and Rendering Services

Rendering is a SW outlet for deceased animals, waste restaurant oil and grease and food waste that may not be appropriate for composting (e.g., meats). Rendering is a very important niche in the WC SW system because it diverts waste streams that would otherwise be directly landfilled but now can be recycled and reused. Rendered products can be used in a variety of consumer products including make-up, soap, plastics and fertilizers²².

Reno Rendering is the only facility currently permitted in WC for rendering activities. They also pick up deceased livestock and cooking by-products such as meat processing scraps, outdated protein products, grease and oil. The grease and oil are minimally processed and transported with other collected by-products out of WC to California for final handling. In 2015 this facility collected over 42,000 tons of materials suggesting there is still a great need in this community for rendering services especially there limited outlets for grease and oil disposal for non-commercial residents²³. Although there is only one permitted rendering facility in WC, other companies provide hauling services for the collection and disposal of cooking oils, greases and fats. The WMP issues both solid waste management permits and individual truck permits for all businesses working with this waste stream. The WMP works closely with both the City of Reno and Sparks Environmental Control Programs to ensure the proper management and disposal of these waste streams in an effort to protect the region's sewer and storm drain infrastructure.

²⁰ Join Together Northern Nevada, <http://www.jtnn.org/>, accessed June 14, 2016.

²¹ US EPA, Scrap Tires: Handbook on Recycling Applications and Management for US and Mexico, Dec 2010

²² National Renders Association, Ten facts about rendering 2016.

https://d10k7k7mywg42z.cloudfront.net/assets/570e6675edb2f35b7900d9df/Ten_Facts_About_Rendering_2016.pdf, accessed June 16, 2016.

²³ Reno Rendering Co., Permit File, Washoe County Health District, 2016.

3.5 ILLEGAL DUMPING

A. Background

Illegal dumping and unlawful dumping are interchangeable terms which refer to the unapproved disposal or placement of SW. This can include dumping in the open spaces around WC (which is usually BLM land), on private property or in public spaces such as parks or federal lands. Illegal dumping creates a variety of hazards including vermin harborage, chemical hazards if the SW is hazardous, fire hazards and odor nuisances. Often illegal dumpsites tend to beget more illegal dumping and can become continuous issues if not managed. If responsible parties cannot be located, sites may persist and ultimately cost tax-payers for their clean-up.

In 2009-2010 University of Nevada, Reno staff published a report on illegal dumping in Northern Nevada²⁴. It showed that many people in Northern Nevada would be willing to report illegal dumping but that less than 15% of those surveyed were aware there was an illegal dumping hotline. This report showed that residents were also supportive of paying a marginal fee monthly to combat illegal dumping and clean-up sites. Based on these findings it can be assumed that the community supports preserving the free spaces of WC void of unwanted SW. Based on this premise, the WCHD has partnered with KTMB to fund and support a variety of public outreach and educational components to combat illegal dumping.

In 2006 a regional group started the Illegal Dumping Task Force (IDTF) in an effort to combine resources to combat illegal dumping. This group includes KTMB, regulatory agencies, Bureau of Land Management, Washoe County Sheriff's Office (WCSO) and concerned citizens. The focus of this group has been education and public awareness of ongoing illegal dumping within WC. The group meets quarterly and continues to be proactive.

B. Community Clean-up Programs and Organizations

KTMB is a local non-profit organization that has organized a variety of events throughout the year to clean-up the community including the Great Community Clean-up, Adopt-a-Spot and Truckee River Clean-Up Day. As a result of this group's efforts and clean-up events, since 2001, 377.68 tons of unwanted SW and 1,397 tires have been removed from WC's open spaces and the beautiful Truckee River²⁵. As an ongoing goal of the 2011 plan, the WCHD has provided ongoing funding to KTMB to support the continued efforts of these programs. WCHD has worked closely with KTMB to provide a structured and sustainable funding source to ensure these programs may be supported for years to come.

The WCSO has been an important force on the IDTF and in combatting illegal dumping. In 2013 an illegal dumping hotline was initiated to report dumpings in progress and have also developed a mobile phone application for reporting illegal dump sites that went live in early 2016. Since 2013 the number of illegal dumping complaints received from the public by the WCHD has reduced and the number of WCSO illegal dumping cases has increased significantly. In 2015, the WCHD received over 250 SW complaints²⁶. Many of these involve illegally dumped SW or private properties with

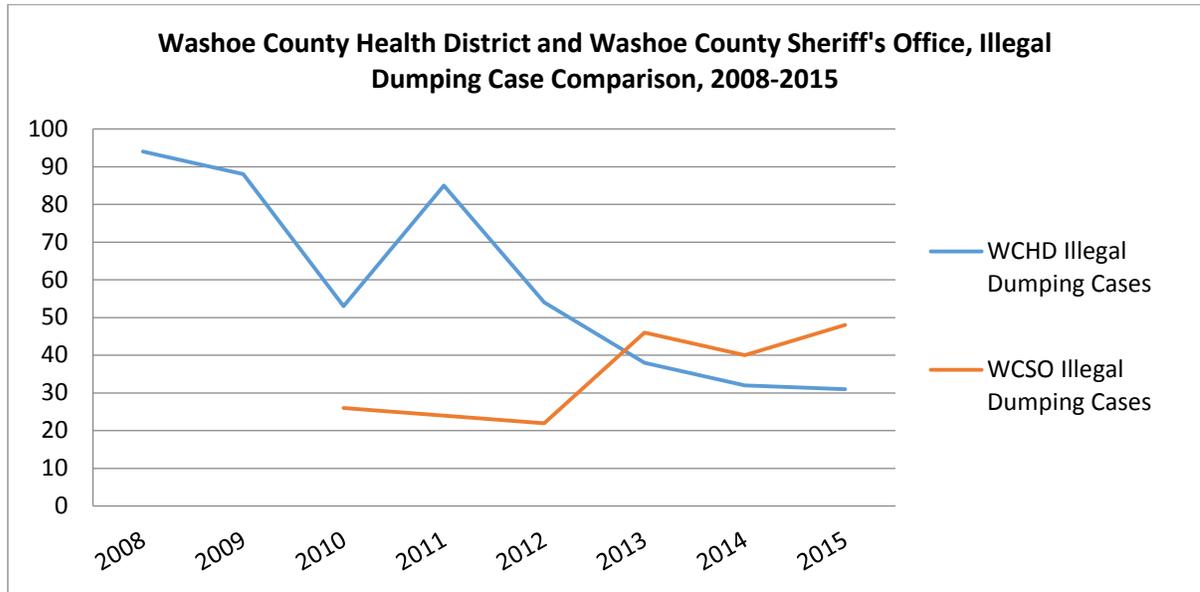
²⁴ Cowee, M. & Curits, K. Illegal Dumping in Northern Nevada: Resident Perceptions and Willingness to Pay for Expanded Cleanup and Enforcement. 2009-2010.

²⁵ Keep Truckee Meadows Beautiful, annual report 2016.

²⁶ Washoe County Health District, complaint report from Permit Plus, accessed June 21, 2016.

accumulated SW creating a health hazard due to odor, vector and vermin harborage or littering. At this time the WCSO does not track the actual volume of waste removed from illegal dump sites reported by the illegal dumping application, but the total number of sites abated is tallied starting from the go live date. The WC Sheriff's Office also has a community work crew program for inmates who need to complete community service. In addition to cleaning animal cages at WC Animal Services and painting local schools, they also do litter removal and some illegal dumpsite clean-up within the community.

Graph3.1 Illegal Dumping Cases in Washoe County



3.6 CHAPTER OBJECTIVES

A. Solid Waste Generation

- Determine if the current WMP website is adequate for addressing public SW needs
- Streamline data collection of SW disposal information in WC from permitted facilities whether located within or outside of WC
- Develop a better system or form to streamline the SW generation and diversion tonnage tracking
- Develop a full waste analysis of WC generated wastes, include residential, commercial, industrial and tourism sections
- Develop educational materials to reduce wastes prior to generation; i.e., reduced packaging purchasing, reusing products, sending wastes back to the generators
- Work with local garbage franchise holders to address the use of garbage exemptions in their jurisdictions

B. Franchise Recycling System

- Continue to be available for franchise agreement negotiations and provide input
- Begin commenting on all development projects for the need to provide access to recycling
- Update regulations with the requirement to provide access to recycling at multifamily and other high density housing within WC

- Update regulations requiring locations for both garbage and recycling containers at all commercial locations at the plan review stage Require all commercial and industrial business to maintain minimum recycling services

C. Non-Franchise Recycling and Diversion System

- Develop a more efficient system to collect recycling information for the State recycling report
- Provide more support to KTMB for their of all local recycling and diversion whether or not they are required to be permitted by the WMP
- Coordinate with local agencies and non-profit groups to address potential recycling and diversion strategies in the community to include commercial and industrial businesses outreach programs
- Determine barriers of commercial and industrial businesses to reduce waste generation or utilize waste reduction practices
- Update the SW regulations to require financial assurance for all waste tire haulers to combat compliance issues

D. Illegal Dumping

- Conduct a study to determine the WC residents knowledge of the illegal dumping hotline
- Continue to monetarily support Keep Truckee Meadows Beautiful
- Provide a framework to have ongoing support of the IDTF
- During the five year plan period look at the potential to develop a separate enforcement program for the investigation and prosecution of illegal dumping

CHAPTER 4

PUBLIC AND COMMUNITY OUTREACH

4.1 INTRODUCTION

The NRS 444A.1100 requires a SW authority funded with tire fund monies to develop a program to educate the public on issues concerning the, “disposal of solid waste, recycling, reuse and waste reduction; reduction of waste and litter; technical assistance; grants for projects concerning solid waste management systems; and efficient use of resources.” This regulation also requires the SW authority to establish databases and a means to support efforts in Nevada that have encouraged recycling.

The WMP is also working to maintain a more user friendly website for the general public which includes links to local recycling resources and more current information published by the EPA as it relates to SWM activities. The WMP is also implementing an updated permitting and inspection platform along with WC, which will allow for a more user friendly system to apply for and track the status of various SWM permits.

4.2 SOLID WASTE DISPOSAL SERVICES

The WCHD WMP does not provide any disposal services within WC. This is a common misunderstood issue in the community. Nor does the WMP directly organize events or programs to collect SW for disposal, recycling or other forms of processing. Instead the WMP indirectly supports local organizations which may organize and lead these events. Such support includes advertising, staffing resources, promotional and educational items and direct financial support.

At times the WMP will provide dumpsters to residents who meet specific criteria for property clean-ups whether on public or private lands. Many of these dumpsters are initiated based on incoming complaints, which require responsible parties to personally finance removal. In the event no responsible party is identified, the underlying property owner is responsible for the proper removal of the wastes. In some situations the WCHD will provide dumpsters to residents with limited financial means but have shown active SW removal on properties.

4.3 LOCAL CLEAN-UP PROJECTS

Although the WMP does not directly organize events or programs to collect SW for disposal or recycling materials for processing, it does offer support to local organizations for clean-up events. This includes providing dumpsters to residents who meet specific criteria for property clean-ups whether on private or public lands. The WMP relies on local organizations and partners such as KTMB to promote and educate the public on recycling and SW issues in the community. The KTMB organizes a variety of clean-up events and disseminates a variety of public service announcements (PSA's) about proper SW disposal and recycling opportunities. Each year the WMP financially supports this organization so they can continue to help keep WC beautiful and keep the open space free of unwanted SW.

The WMP has also supported local chapters of the National Boys Scouts to organize and support small targeted clean-up of projects. Many of these projects have resulted in awarding members of these chapters Eagle Scout promotion. The WMP has also provided sharps containers to Join Together

Northern Nevada drug and sharps round up events to help better educate the general public of need to properly manage sharps generated wastes.

4.4 EDUCATION AND OUTREACH

In the past, the program had a partially funded PIO position for education and outreach. This position helped to promote clean-up events and disseminate information about proper SW disposal, household hazardous waste disposal, recycling & diversion outlets. During the recession, this position was eliminated and currently does not have a dedicated public information officer (PIO) or Public Health Educator for the WMP. No plans have been developed to rebuild this capability within the program. The WMP does however maintain a webpage and FAQ site with information about SW issues and diversion outlets.

The WMP does not develop PSA's or public outreach directly regarding SW disposal, recycling or diversion on a routine basis. However, in 2015 the WCHD partnered with the Nevada Department of Wildlife to develop a video about urban bear management. The video addressed issues such as garbage and solid waste management to prevent bear attraction. The video was shown on the WCHD website, broadcast on local television stations and DVD's were produced for dissemination. The WMP has also started utilizing the EHS Facebook page for program outreach in the past year which is starting to build traction and momentum in the community.

The WMP has never conducted an overarching community needs assessment to determine what if any needs are out there for the program to address regarding SWM. Only one small targeted assessment was made in 2011 where 14 focus groups were conducted to measure the recycling behaviors and barriers of residents of WC. Follow-up focus groups or surveys have not been conducted to see if any of the findings or barriers have changed since the original project was completed.

4.5 PROGRAM EVALUATION

The basic function of this Plan, and all previous drafts, has been to develop a snapshot of the SW management system in WC. It outlines and describes of the movement of waste streams within the county but also outlines the major barriers and limitations facing WC regarding waste diversion and recycling efforts. The WMP has begun to address some of the programmatic limitations that will need to be improved to achieve the objectives listed at the end of each chapter. For example, the regulations used by WMP were last updated in 2011, but prior to that had not been updated for at least a decade. These regulations need to be reviewed and updated on a routine basis to address new technologies, loopholes for enforcement, reporting requirements and remove irrelevant sections of the regulations.

4.6 CHAPTER OBJECTIVES

A. Solid Waste Disposal Services & Clean-up Projects

- Continue to support local organizations that organize local community clean-up and collection events
- Develop feedback mechanism with supported organizations to determine if there are any barriers to achieving increasing SW removal in the community
- Partner with other organizations and entities to compile resources and for consistent messaging regarding the how to manage wastes, organize clean-ups and eliminate illegal dumping and waste storage prior to it becoming an issue in WC

B. Education and Outreach

- Continue to use the updated WC website to disseminate information about proper SW disposal and recycling/diversion to the community
- Determine if the current WM website is meeting the public's need for information dissemination
- Utilize the SW email blast list on the WC website to disseminate information to residents about clean-up events or other topics pertaining to SW topics
- Evaluate the WMP and the potential to expend additional resources for public education and outreach much like the program had prior to the recession educator

C. Program Evaluation

- Commit resources for the evaluation of data and reporting
- Utilize more student interns at the local University for projects
- Develop outcome objectives for future program evaluations
- Develop a new layout for the 2021 SWM Plan to have a more user friendly plan which better captures all of the components of the solid waste management system within WC
- Develop a process for standard regulation review and updates

CHAPTER 5

FINANCIAL SUSTAINABILITY

5.1 INTRODUCTION

Chapter 444 of the NRS, which enables the creation of the SWMA's in Nevada, also created a funding mechanism through a fee on the sale of automobile vehicle tires. This funding mechanism is referred to as the Solid Waste Management Account which is funded through the sales of automobile tires. For every automobile tire sold in this State, a \$1 fee is charged and collected by Nevada Department of Taxation (NDT). The Solid Waste Management Account is the primary source of funding for the WMP. Additional funding comes from local revenues, funding through the collection of fees and the WC general fund tax transfer to the WCHD.

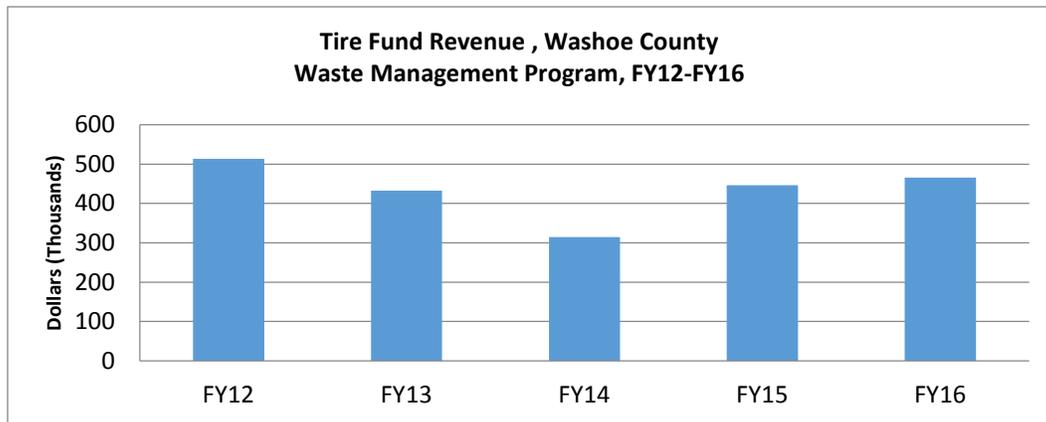
5.2 CURRENT FUNDING SOURCES

A. Tire Fund

As described above, the Solid Waste Management Account commonly referred to as the Tire Fund, which funds the three SWMAs in Nevada. The Tire Fund is allocated based on the following percentages: the NDT receives 0.5%, the NDEP receives 44.5%, the SNHD receives 30% and the WCHD receives 25%. The WCHD portion of the funding constitutes approximately 80% of the WMP operating budget.

In 2015, the WCHD conducted a cost analysis of the WMP based on funding, revenue and the resources necessary to complete the required program elements. The cost analysis demonstrated the revenue historically received through the Tire Fund is adequate to cover the WMP operational costs and meet the requirements of all applicable Federal, State and WCHD laws and regulations. The Tire Fund has the potential to fluctuate as it is consumer driven based on the purchase of new automobile tires, but it has been relatively stable over the past five years as demonstrated below. Fluctuations in Tire Fund revenue may be related to both the health of the local economy and the continued population growth in WC.

Figure 5.1 Tire Fund Revenue for the past Five Years



B. Local Revenue

Local revenue accounts for approximately 15-20% of the WMP operating budget. The sources of this funding include: collected fees from permitted and new SW facilities, and funding from WC allocated to the WCHD general health fund. All SW facilities and haulers in WC are required to obtain and maintain a permit to operate. New facilities must submit site and operational plans for review prior to permit issuance to ensure they meet all DBOH Regulations Governing Solid Waste Management.

All applicants must also pay application, plan review and permit fees as applicable. All currently permitted facilities pay an annual permit fee and receive at least one inspection each calendar year. However, they can be subject to additional site visits for re-inspections if violations are found during the annual inspections or pending any complaints which may incur additional fees.

All fees charged by the DBOH, including SW permit to operate fees, are calculated based on operational costs of the respective program. Any proposed fee changes must go to the DBOH for approval, where they are subject to public comment and must be accompanied by a business fiscal impact statement. The most recent approved fee schedule went into effect on July 1, 2016.

5.3 POTENTIAL FUNDING SOURCES

Grant funding is a potential revenue option available to the WMP but has not historically been pursued. Currently, the WMP is not utilizing any grant funding but in the future is interested in investigating potential grants that may help with SW management, diversion, recycling, waste audits and outreach within WC.

Because the WMP does not own any of the waste management or recycling system infrastructure, it is difficult to increase revenue outside of the mechanisms described above. Revenue generation through tipping fees (as in the SNHD) would have to come through the franchised garbage hauler, and receiving funding with property or sales tax would need to come from the State Legislature.

5.4 CHAPTER OBJECTIVES

A. Current Funding Sources & Potential Funding Sources

- Continue to evaluate staff capacity to achieve programmatic objectives
- Continue to build efficiencies within the program to maximize utilization of funding
- Actively seek and apply for grants to meet programmatic goals and special projects
- Continue to be active and aware of any legislative initiatives which may negatively impact the State Tire Fund or the WCHD portion of the money collected
- Complete an updated Cost Analysis of the WMP for FY 2018

CONCLUSION

The SW management system in WC has changed in the last five years. This change has been shaped by major updates to local garbage franchise agreements, implementation of single stream recycling for most WC residents and a recovering economy. While management of *all* waste is the primary focus of the WMP, increasing emphasis has been placed on recycling and, more broadly, diversion. This paradigm shift towards waste reduction is parallel with the recent goals of the EPA, in that local jurisdictions should focus on the prevention of SW rather than simply its final disposal or reclamation. In writing this recent draft of the Plan, it became apparent that the original descriptive nature of the previous Plans used as templates, may not render a document comprehensive enough to be used as a true planning tool, but simply as a community and programmatic assessment. Future Plans may need to change how information is reported to address transportation issue of SW and how this impacts disposal, strategies for more directed community outreach, and development of diversion resources commercial and industrial SW generators.

This 2016 Plan begins that paradigm shift and evolution, and many of the objectives identified focus on improvement of the local SW management system both within the brick and mortar of the Health District and in the greater WC community. Based on this thought process, the WC SWMA has eliminated listing all applicable municipal ordinances, WC Codes, and information regarding the LRL operations and rates in the appendices, because the WC SWMA does not have regulatory oversight of these items. Additionally, this information may change more frequently than this Plan is updated; therefore this information is available online. As mentioned in chapter one, the WC Emergency Debris Management Plan is currently being updated as therefore was not included in the appendices.