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Waste Not, Want Not

Economic and Legal Challenges of Regulation-Induced Changes in Waste Technology and Management

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Waste Not, Want Not: Economic and Legal Challenges of Regulation-Induced Changes in Waste Technology and Management

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Abstract

Beginning in the early 1990s, stricter government regulation to protect public health and the environment led to radical changes in waste technology and management in the United States. More stringent regulation induced wholly new technologies, including the lining of landfills, the control of their gas emissions, and changes in the economic scale and geographic location of operation. Economic integration of waste management transformed "the local dump" into a nationwide and modernized industry. These changes led to unprecedented intervention by local government in attempts to control price, quantity, and location-specific attributes of the $40 billion waste market. Regulatory-induced changes in markets have long been a topic of academic and policy interest, but unique in this case was the emergence of legal challenges—under the dormant commerce clause—concerning public governance and the private sector. This paper reviews the regulation-induced changes in the market, its subnational governmental interventions, and protection of interstate commerce when new technology restructures a local service into a national business.

Key Words: municipal solid waste, economics, Supreme Court, technological change, regulation, interstate commerce

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Introduction

For centuries, households and businesses in the United States disposed of their waste at the local town dump. In the 1990s, stricter government regulation to protect human health and the environment led to major changes in the scale and scope of waste-handling technologies. In turn, these technological changes led to new market structure and industrial organization of waste management services. Two of the most pronounced differences in handling waste are that it is now typically hauled long distances and disposal takes place at large, regional, state-of-the-art facilities. The town dump has been replaced by an industry operating coast-to-coast and at a much larger technological and financial scale. In an annual survey of the industry, a major trade publication reports net revenues in 2008 of about $40 billion for the top 100 companies (Waste Age 2008).[1] Industry revenue is of course just one measure. The political capital at stake in waste management is also large; municipal waste service, along with schools and police, traditionally ranks high among the priorities of mayors and other local officials.[2]

Despite the growth of the private, nationwide industry, oversight responsibility for implementation and compliance with the new regulations rests with state and local government. In addition, in many jurisdictions, the local government still plays a role as provider of waste

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[1] A locality's waste may be handled by the private or public (local government) sector or some mix of both private and public sectors. For this reason, industry revenues underestimate the total value of waste services in the economy. In addition to the revenue of the private sector, local jurisdictions that provide waste service using government equipment, facilities, and workers levy fees and taxes for the service. These payments are typically subsumed in local property taxes and a locality's waste budget is often aggregated within budget accounts, making it difficult to estimate the size of the portion of the market for which service is publicly provided.

[2] A Google search using "trash and mayors" returns over 4 million hits (February 28, 2009), such as "New Trash Cans Bear Mayor Ravenstahl's Name," in which reporter Paul Martino describes the history of Pittsburgh mayors placing their names on waste cans. Martino notes in the case of the current Mayor Ravenstahl that "the signs on the cans indicate that they are part of the Taking Care of Business program" (http://kdka.com/politics/Mayor.trash.cans.2.937431.html, accessed February 28, 2009). Nicholas Confessore discusses the controversy over New York City Mayor Michael Bloomberg's decisions on waste management in "Mayor Wins Test Over His Trash Disposal Plan as Council Drops Veto Override Vote," *The New York Times,* June 23, 2005 (http://www.nytimes.com/2005/06/23/nyregion/23garbage.html, accessed February 28, 2009).

services, working alone or under contractual arrangement with private providers to collect, haul, and dispose of waste. In short, the modern waste industry is national in scope, involves a mix of public- and private-sector supply, and is subject to subnational public oversight by local and state regulatory authorities. The adjustments by all of these parties to regulation, innovation, and changes in markets have been adversarial at times, however, leading to the judicial intervention discussed in this paper.

Regulatory-induced changes in markets have long been a topic of academic and policy interest (e.g., see Smith 1974; Binswanger and Ruttan 1978; Newell et al. 1999; Kerr and Newell 2003; Macauley 2005). The focus has been on the effects of regulation on markets generally, such as the effect on the nation's automobile industry of the phasedown by the U.S. Environmental Protection Agency (EPA) of leaded gasoline (Kerr and Newell 2003). The case of waste markets is a regulation-induced transformation of a market from one that is local in scope to one of nationwide import. Pronounced in the case of this transformation has been the spate of legal challenges following these changes. At first, the challenges centered on interstate transportation (see Weinberg 1995). Subsequent challenges proceeded at other stages of waste processing. These included controls of waste flows at disposal facilities, levies on special fees or taxes on flows, and the award of exclusive franchises. Although wide-ranging in the variety of challenges, the point of law in all cases has been potential conflict with the dormant commerce clause.

The next sections describe the changes in waste regulation and the responses of the waste management sector in terms of technological innovation and new types of market structure. Discussion then reviews the legal challenges engendered by these developments. Some government interventions, such as restrictions on interstate waste shipments, have repeatedly and consistently been found in violation of the clause. Findings in other cases are less consistent and may not yet have fully clarified the line between local public intervention and interstate markets. Taken together, the cases represent the array of commerce clause concerns that can arise when regulation and technical innovation combine to create a nationwide market from a traditionally local market. The concluding section notes parallel issues, such as the conflict between internet-enabled interstate shipments of goods and extant state licensure requirements to which the goods have been subject.

I. Changes in Waste Regulation

Finding that "open dumping is particularly harmful to health, contaminates drinking water from underground and surface supplies, and pollutes the air and the land," the U.S. Congress sought reform of the nation's waste management practices in the Resource

Conservation and Recovery Act of 1976 (also known as RCRA).[3] Major changes in waste management began as states and localities took steps to comply with new regulations promulgated by the EPA in implementing RCRA. Provisions in RCRA subtitle D required states receiving federal financial assistance under the Act to "prohibit the establishment of new open dumps" and to require all solid waste to be either "utilized for resource recovery" or "disposed of in sanitary landfills" that met EPA standards. RCRA further directed the EPA to determine whether state permit programs or other systems of prior approval were adequate to ensure compliance with the federal revised criteria.

EPA in its final rule established criteria for location restrictions and standards for the design, operation, groundwater monitoring, financial assurance, and closure and post-closure care for municipal solid waste (MSW) landfill facilities (40 CFR Parts 257 and 258). The rule included a variety of criteria:

- new design requirements including composite liners (flexible membrane materials covering the bottom of the fill to prevent leachate);
- new operating requirements including specifications for the amount and type of daily covering of the fill, typically with soil, to prevent fires, odors, litter;
- control of air pollution, public access, and illegal dumping;
- protections against the spread of disease vectors and effluent discharges in runoff and surface water;
- control and monitoring of methane gas, groundwater, and disposal of household liquids;
- the maintenance of operating records;
- closure and post-closure requirements for cover systems to minimize infiltration and erosion, with closure actions to commence within 30 days after operations cease and be conducted for 30 years; and
- financial assurance for closure, to be demonstrated as a condition of permitting new landfills.

The rules took effect in 1993 for new, existing, and lateral expansions of MSW landfills. Landfills that stopped receiving waste in 1993 had to comply only with specified closure

[3] Pub. L. No. 94-580, 90 Stat. 1976.

requirements. Many landfills were unable to meet these standards and were forced to close; other landfills were modified for compliance. New landfills were expected to meet the standards.[4]

II. Changes in the Waste Market

Compliance with the new regulations led to considerable changes in waste processing and management practices.[5] Substandard landfills (dumps) closed, replaced by state-of-the-art, large-scale, regional facilities, all significantly bigger but far fewer in number than one dump per town.[6] Other types of disposal became more common, such as incineration and recycling of some materials, leading to design and construction of wholly new facilities in the form of transfer stations, recycling centers, incinerators, and waste-to-energy facilities. (At transfer stations, waste is aggregated from neighborhood collection routes into larger trucks for long-haul shipping.) In response to state requirements for local waste management plans, many jurisdictions implemented recycling programs, leading to the construction of new materials recovery facilities (or MRFs), at which some recyclable materials were removed from the waste stream before final disposal. These changes also led to an increase in long-distance hauling and even interstate shipments of waste by semitruck, rail, and barge.[7] Figure 1 illustrates the new industry configuration of waste processing and disposal facilities and the many transportation (collection and hauling) pathways among them.

Table 1 provides additional information about these trends. The table documents the reduction in the number of landfills (column A)—which for most of the nation's modern history had been the backbone of waste disposal—and the increase in the average amount of waste they handled (columns D and E) in the transformation to large-scale regional facilities.[8] The number of landfills declined from nearly 8,000 in 1988 to some 1,750 in 2006, and landfills on average handled four times as much waste. Column B shows the year-to-year decline in the number of fills, including the reduction in 1993 and 1994 as many old fills closed to meet the compliance

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[4] 40 C. F. R. Part 258 (1996).

[5] *See* Richard C. Porter, THE ECONOMICS OF WASTE, 2002.

[6] *See, e.g.*, Edward W. Repa, *Solid Waste Disposal Trends* 30 WASTE AGE, 2000; U.S. Environmental Protection Agency, MUNICIPAL SOLID WASTE IN THE UNITED STATES: 2007 FACTS AND FIGURES, 2008, at 156 and discussion of landfill scale in Jong Seok Lim & Paul Missios, *Does Size Really Matter? Landfill Scale Impacts on Property Values*, 14 APPLD. ECON. LTRS. 719.

[7] See, e.g., Michael Fickes, *Getting on Track*, 35 WASTE AGE 2004, 46; Patricia-Anne Tom, *All Aboard!* 38 WASTE AGE 2007, 26.

[8] See additional discussion of the increase in large-scale facilities in Lim and Missios (2007).

deadline. Columns F and G show the trends toward recycling and use of materials recovery facilities.

These technology developments in response to new regulation led to adjustments in market structure and industry organization, many of which in turn led to the large number of legal challenges addressed in the next section. Some of the largest private suppliers of waste collection, hauling, and disposal chose to consolidate, finding vertical integration a means to ensure that large volumes of waste could be collected to supply large-scale disposal facilities. The Congressional Research Service (CRS) noted this trend toward consolidation of the waste industry as firms offered "end-to-end" waste services from collection to transfer station to disposal site (McCarthy 2004, 2).

With the demise of the local dump, the U.S. Office of Technology Assessment (1989, 54) reported that

> … municipalities (especially the smaller ones) may be reluctant to assume the primary responsibility for operating a complex business. The large waste management companies that have emerged are sophisticated in the technical aspects of [municipal solid waste] management and financially capable of accepting some of the associated business risks. At the municipal level, the prospect of contracting out increasingly complicated waste management services has become particularly attractive.

Indeed, local governments increasingly chose a wide mix of arrangements involving public and private provision of service.[9]

Long-haul shipments of waste, including interstate shipments, became increasingly important as the means to access the large, regional facilities and to exploit wide differences among disposal fees that justified incurring transportation costs. The CRS report noted that consolidated firms often "…ship waste to their own disposal facility across a border, rather than

[9] Some used public employees and municipally owned facilities; others combined public and private supply along the spectrum in Figure 1 (e.g., public collection and private disposal, or private collection and use of public disposal facilities). Other jurisdictions contracted for private end-to-end services, and others allowed households and commercial establishments to purchase their own end-to-end services from the private sector. Survey data compiled by the International City/County Management Association (ICMA) show that in 2003, 43 percent of communities used the private sector for collection and hauling of residential solid waste. Fifty-two percent of communities used the private sector for disposal of residential solid waste at landfills. In 1997, which was the next most recent year of the ICMA survey, these percentages were 37 percent and 42 percent for collection/hauling and disposal, respectively. Discussion of these trends in local services is at http://www.icma.org (accessed September 16, 2005); see also Walls et al. 2003.

dispose of it at an in-state facility owned by a rival." Cheaper disposal options in a state other than the state in which the waste is generated became a characteristic of the market, substantiated by data on differences in landfill tip (disposal) fees. The National Solid Wastes Management Association has published average tip fees by state since 1982. The data represent the "spot market" price for MSW disposal. The 2004 data are from some 800 privately owned or operated MSW landfills (only state averages are publicly reported). Table 2 provides data on the average national and regional tip fees during the period 1998 to 2006.[10]

Figure 2 shows the interstate flows[11]. The arrows indicate the interjurisdictional shipments of waste as of 2003. The CRS describes the continued increase in shipments and in waste imports (shipments into states):

> Total interstate waste shipments continue to rise due to the closure of older local landfills and the consolidation of the waste management industry. Slightly more than 39 million tons of municipal solid waste crossed state lines for disposal in 2003, an increase of 11% over 2001. Waste imports have grown significantly since CRS began tracking them in the early 1990s, and now represent 24.2% of the municipal solid waste disposed at landfills and waste combustion facilities. In the last 10 years, reported imports have increased 170%. (McCarthy 2004, Summary)

The corresponding increase in interstate shipments of waste reflected a combination of differences in disposal fees among regionally dispersed landfills and exogenous trends of declining long-distance transportation rates (see Ley et al. 2002). McCarthy points out:

> Several factors are at work here. In the larger states, there are sometimes differences in available disposal capacity in different regions within the state. Areas without capacity may be closer to landfills (or may at least find cheaper disposal options) in other states. A good example is Illinois: the Chicago area, which is close to two other states, exports significant amounts of waste out of state. Downstate, however, Illinois has substantial available landfill capacity, and imported 1.5 million tons from St. Louis and other locations in Missouri. (McCarthy 2004, 10–11)

[10] Using data such as these on differences in tip fees, together with data on transportation costs, landfill operating and lifetime capacity, and other information, Ley et al. (2002) find significant cost-savings for the public of interstate shipments. For an earlier and prescient study on attempts by states to regulate waste transportation, see Guttman (1993).

[11] The figure is from Repa 2005a; his figure is based on McCarthy 2004.

At the same time, in jurisdictions where the local government owned, operated, or contracted with large disposal facilities, public authorities sought to control the flow of waste to their facilities for the same reason.

These trends toward competition in the provision of waste services, as manifested in jurisdictions using the private sector instead of government and in jurisdictions using multiple private companies to serve their residents; interstate shipments of solid waste; and stricter health and environmental regulation of landfills describe a solid waste industry very different from the industry of years ago. Each of these developments figured prominently in the court decisions discussed in the next section.

III. Legal Challenges Created by These Trends

These trends describe a solid waste industry very different from the exclusively local service provided in previous years. What had not changed, however, was state and local responsibility for waste management. The U.S. Congress in legislating RCRA had made it clear that states and localities were to oversee waste management planning and regulatory compliance; specifically, that "the collection and disposal of solid wastes should continue to be primarily the function of State, regional, and local agencies (…)."[12]. The attempts of state and local governments to find a workable approach for oversight of the new industry without conflicting with the (dormant) commerce clause prompted the legal challenges addressed in this section.

Intervention by state and local public authorities in the newly configured, nationwide waste industry began to be challenged as violations of the dormant commerce clause of the U.S. Constitution.[13] Article 1, section 8, clause 3 invests Congress with the power "[t]o regulate commerce among the several states." This interstate commerce clause has long been interpreted to include a "dormant" restriction on the power of state and local governments (that is, not just Congress). In *C&A Carbone, Inc. v. Clarkstown* (at 401–402), the Court cited *H.P. Hood & Sons, Inc. v. Du Mond*, 336 U.S. 525, 537–538 (1949) in noting "This Court long ago concluded, however, that the Clause not only empowers Congress to regulate interstate commerce, but also

[12] Pub. L. No. 94-580, § 6901.

[13]The legal cases discussed in this section were not the first waste management cases to be brought to the courts. As noted in *USA Recycling, Inc. v. Town of Babylon* 66 F. 3d.1271 (2d Cir.) 1995, the Supreme Court in 1905 refused to hear two challenges brought on the grounds of takings and due process; these challenges were to ordinances in San Francisco and Detroit that gave a firm the exclusive right to collect and dispose of municipal waste (*California Reduction Co. v. Sanitary Reduction Works* 199 US 306 1905; *Gardner v. Michigan* 199 US 325 1905).

imposes limitations on the States in the absence of Congressional action." In *Waste Connections of Nebraska, Inc. v. City of Lincoln*, 269 Neb. 855 (May 27, 2005) (at 7), the Court noted the extension of the limitations to local government as well. Citing *Oregon Waste Systems, Inc. v. Department of Environmental Quality of Ore.*, 511 U.S. 93, 114 S. Ct. 1345, 128 L. Ed. 2d 13 (1994); *Blue Circle Cement v. Board of County Comm'rs*, 27 F.3d 1499 (10th Cir. 1994), the Court in *Waste Connections* wrote "the clause denies states, and their political subdivisions, the power to unjustifiably discriminate or burden the interstate flow of articles of commerce."

At issue in particular were various means used by local governments to control the flow of waste by intervening in its transportation, processing, and disposal. Intervention that affects the flow of waste at any point in the various stages of waste management (recall Figure 1) could by its very nature be seen as a possible interference with interstate commerce in the waste industry. Waste may be transported across political jurisdictions as a routine matter during hauling, processing, or disposal. Waste facilities such as landfills or transfer stations may receive waste from other states.

The Court in SSC Corp. v. Town of Smithtown (at 3) summarized the changes in the industry, commenting "Not long ago, municipalities took out the trash simply by hauling it to the local dump. But as landfills have reached the bursting point, and as environmental regulations have burgeoned, local governments have been forced to make significant investments and become more innovative in safely and legally disposing of trash. These investments and innovations include the multifarious transfer stations, recycling centers, and incinerators that have mushroomed throughout the land in the past decade."

These technology and economic arrangements led to so many cases that the court in SSC Corp. v. Town of Smithtown (at 3) observed "… a federal docket that is just as clogged with—of all things—garbage. No fewer than six times in the past seven years has the Supreme Court granted certiorari to decide a case involving the disposal of solid or hazardous waste." Local intervention to assure sources of revenue for financing publicly owned facilities came into question, then, as a means of controlling flows of waste among jurisdictions.

The first case to be heard by the Supreme Court in the wake of these changes in the waste industry was C&A Carbone, Inc. v. Town of Clarkstown, New York (511 US 383, 1994). The proceedings included aspects of public intervention that subsequent challenges would also address, including requirements that waste be handled at a specific facility and that fees be levied to finance public facilities. In Carbone, the town enacted an ordinance requiring nonrecyclable residue (material remaining after recyclables are removed from the waste stream) collected by commercial haulers to be processed at the town's transfer station and that an above-market tip

fee would be levied. The transfer station was owned and operated by a private company, although the town was to purchase the facility for one dollar after five years. The town had guaranteed a minimum flow of waste to the facility and agreed that the operator could charge an above-market fee to finance the facility. The Court found that the ordinance restricted interstate commerce, noting (at 383) "[W]hile its immediate effect is to direct local transport of solid waste to a designated site within the local jurisdiction, its economic effects are interstate in reach." The Court found further that the town had recourse to other means of financing the transfer station.

Specifically, the Court found that if an ordinance discriminates against interstate commerce by treating in-state and out-of-state interests differently, benefiting the former and burdening the latter, it is per se invalid unless the State has "no other means to advance a legitimate local interest" (Carbone at 392). On the other hand, if the law regulates evenhandedly, it will be upheld unless the burden it imposes on interstate commerce is "clearly excessive in relation to local putative benefits" (Carbone at 390, quoting Pike v. Church, Inc. 397 US 137, 142, 1970). In Pike, the Supreme Court considered the commerce clause implications of an Arizona order restricting the shipping of cantaloupes grown within the state to an out-of-state packing facility. The order required the grower to pack, label, and ship, the container as Arizona-grown cantaloupes. Compliance with the order would have necessitated that the company build a packing facility in Arizona. The Court found that the order burdened interstate commerce and was not justified on the basis of a compelling state interest. This balancing of the burden on interstate commerce with putative local benefits came to be referred to as "the Pike test."

Although a landmark decision, Carbone was neither the first nor last legal challenge against public intervention in the waste industry in the wake of industry modernization for regulatory compliance. Other challenges included those against variations on similar restrictions on interstate transport of waste, disposal of waste, and fees levied differentially on in-state and out-of-state waste flows. Common refrains in public sector arguments advocating restrictions were protection of the health and safety of residents and the need to finance local public waste management practices (such as recycling programs) or facilities.

The discussion below summarizes the cases in more detail. Cases are further organized in Tables 3 through 7 by the stage of waste flow depicted in Figure 1.[14] Table 8 summarizes the

[14] The subheadings of the next paragraphs loosely follow the classification of court cases on the basis of type of flow control as documented by the National Solid Wastes Management Association (http://wastec.isproductions.net/webmodules/webarticles/anmviewer.asp?a=1085&print=yes, accessed January 31, 2009).

findings chronologically and includes the nature of the intervention and the relevant stage of waste management (such as collection, hauling, or processing).

Interstate Transport

A large number of cases involve challenges to practices on the basis of their possible conflict with the interstate transport of waste (Table 3). The geographic and price dispersion of fewer and larger waste disposal facilities throughout the nation led to an increase in shipments of waste across jurisdictional boundaries. State and local authorities sought to control these shipments for several reasons. Some argued against importation of waste because the extra volumes of waste would strain the capacity of their own facilities or endanger public health and the environment. Others argued against export of waste because diverting waste reduced flow coming to their own large, volume-dependent waste-handling facilities (landfills, transfer stations, and incinerators).

Cases involving interstate transport included ordinances prohibiting importation of out-of-state waste (Philadelphia v. New Jersey, Fort Gratiot Landfill v. Michigan Department of Natural Resources) and the levying of special fees on imported waste (Chemical Waste Management Inc v. Hunt, Oregon Waste Systems v. Environmental Quality Commission of State of Oregon). Philadelphia set the stage; the court found "waste" to be an ordinary commodity (p. 4) and restrictions on interstate shipments of the commodity to be "protectionist" (p. 8). Arguments advanced by parties supporting waste import restrictions included protection of public health and safety and preserving landfill capacity in the importing state. Another case involved an ordinance stipulating that states from which waste was imported adopt the importing state's standards for recycling (National Solid Wastes Management Association v. Meyer).[15] In West Virginia, the state public service commission required that waste haulers be certified as common carriers and granted exclusive service territories (Harper v. Public Service Commission of West Virginia).[16]

In all of these cases, the courts found that the local government restrictions violated the dormant commerce clause.

[15] *National Solid Wastes Management Association v. Meyer* 165 F.3d 1151 (7th Cir.) 1999.

[16] *Harper v. Public Service Commission of West Virginia*, No. 03-00516 (S.D.W.Va.April 11, 2006) downloaded from http://pacer.ca4.uscourts.gov/opinion.pdf/041444.P.pdf

Nondiscriminatory Flow Control

Decisions considering other types of government intervention were in less agreement about its legality than in cases of interstate transport (Table 4). Some localities chose a single supplier of waste management services after letting competitive bids for exclusive franchises, for example. In Houlton Citizens Coalition v. Town of Houlton, the Court found that a competitively awarded exclusive contract for waste hauling and a requirement to use a local town transfer station did not violate the commerce clause; the bidding process was a "level playing field" (Houlton at 8). A different Court hearing a similar case in Kentucky at the same time, Huish Detergents v. Warren County (see previous discussion), noted the "level playing field" consideration (Huish at 11). However, the Court in Huish "expressed no opinion on it" (Huish at 11) and instead found problems with Warren County on other grounds (discussed below). In Harvey & Harvey, Inc. v. Chester County and in Maharg, Inc. v. Van Wert Solid Waste Management Authority, local authorities designated the disposal facilities to be used by haulers. In Harvey & Harvey, an ordinance required waste disposal at a county-designated facility. The court found for the county and noted (p. 7) that by conditioning the haulers' licenses on their compliance with local ordinances controlling waste flows, local governments could "assure a certain minimum revenue at the designated sites. Flow control both guarantees that a certain volume will be deposited and enables the operators of the designated landfill to collect a tipping fee high enough to cover the cost of processing…. Flow control ordinances have been crucial to the financial viability of these facilities in the wake of the precipitous decline of tipping fees."

In Maharg, haulers were required to use a disposal facility on a county-designated list and to pay a special fee to finance the county's waste management plan. The Courts found that these practices were even-handed in their treatment of in- and out-of-state waste. In Harvey & Harvey, however, the Court remanded for further proceedings whether the county gave due consideration to use of in- and out-of-state disposal facilities.

Fees to Control Flows

Jurisdictions have also levied a variety of charges on waste disposal in attempts to finance publicly owned disposal facilities (Table 5). The Courts have differentiated charges that apply to in- and out-of-state disposal from those that apply only to in-state disposal. In Zenith/Kremer Waste Systems, Inc. v. Western Lake Superior Sanitary District, a Minnesota district levied a waste management tax on all waste regardless of disposal destination and used the revenue to service debt on waste processing facilities. The Court held that the tax and its use did not discriminate against interstate commerce. In applying the weaker balancing test (Pike), the court found that any benefit to the community outweighed any burden on interstate

commerce. In Waste Connections of Nebraska, Inc. v. City of Lincoln, the Court held that a tax on waste collection for waste disposed of in Nebraska, but not on waste that would be exported outside the state, may have disadvantaged intrastate shipments by making their disposal more expensive than exports. However, the tax was not found to discriminate against interstate shipments. In Oxford Associates v. Waste System Authority of Eastern Montgomery County, an ordinance requiring all waste to be processed at the county-owned waste-to-energy facility and an "above market" tip fee levied on haulers was found to violate the commerce clause.

Intrastate Flow Control

Local jurisdictions have limited waste collected within the jurisdiction to disposal at within-jurisdiction city, county, or state facilities (Table 6). These instances of intrastate flow control have been upheld, often after application of the balancing test. In Ben Oehrleins and Sons & Daughter, Inc. v. Hennepin County and in U&I Sanitation v. City of Columbus, localities enacted ordinances requiring that waste be processed at local, publicly owned facilities. In neither case did the Courts find discrimination against interstate commerce. In Ben Oehrleins, the Court held that under the balancing test, local benefits exceeded any burden on interstate commerce. In U&I Sanitation, under the balancing test, the Court found an excessive burden on interstate commerce, writing that "if all cities such as Columbus enacted flow control ordinances like the one at issue here, the interstate market in recyclable materials extracted from solid waste could be substantially diminished or impaired, if not crippled" (U&I Sanitation at 14).

In IESI Ar. Corp. v. Northwest Arkansas Regional Solid Waste Mgmt. District, the Court found that county requirements that, in effect, forced independent waste haulers to use the sole, in-county landfill rather than a private transfer station did not discriminate against interstate commerce. The owner of the transfer station shipped waste from it to his own landfill. The in-county landfill was also privately owned and operated. As in the cases noted above, under a balancing test the Court found little excessive burden on interstate commerce relative to putative local benefits.

Market Participation by the Public Sector

Another line of argument has addressed public intervention with government in the role of a consumer or producer, that is, the "market participant" exception to the commerce clause (Table 7). The market participant exception rests on whether the state "regulates" the market or "participates" in it. If the action is participatory, the commerce clause does not apply. In National Solid Waste Management Association v. Charles W. Williams, the Court found that by requiring government offices to use a designated waste disposal facility, the state acted as a participant in

the market. The state directed the purchasing power of local government units (citing precedent for the dormant aspect to include both states and local governing units). The Court in this case cited SSC Corp. v. Town of Smithtown, in which it had been held that "to the extent that a state is acting as a market participant, it may pick and choose its business partners, in terms of doing business, and its business goals—just as if it were a private party" (National Solid Waste Management Association at 5).

In these cases, and also USA Recycling v. Town of Babylon, the Courts also used the market participant exception. In USA, the Court found that the town had "eliminated the market entirely" by publicly providing free use of a local, privately operated town-owned incinerator (USA at 11). In Huish Detergents, Inc. v. Warren County and in part of SSC Corp., the Courts did not find the market participant exception and held that the commerce clause had been violated. In these instances, the direction of waste to a single, in-state facility (SSC) and other restrictions (Huish) constituted market regulation, not participation.

These cases involved private waste haulers and disposal facilities. In the most recent case heard by the Supreme Court (United Haulers Association, Inc. v. Oneida-Herkimer Solid Waste Management Facility 2007), the relevant facilities were publicly owned. The Court found that unlike Carbone, in which the relevant asset (the transfer station) was privately owned, public ownership and operation of the facility by the Oneida-Herkimer authority did not lead to violations of the dormant commerce clause. (The transfer station in Carbone was under private operation at the time of the case, but was to be transferred to municipal ownership within the year.) The Court found that the dormant commerce clause precedents "allow for a distinction between laws that benefit public, as opposed to private, facilities" (United Haulers at 2). The Court noted that "the most palpable harm imposed by the ordinances at issue—more expensive trash removal—will likely fall upon the very people who voted for the laws, the Counties' citizens. There is no reason to step in and hand local businesses a victory they could not obtain through the political process" (United Haulers at 3). In the dissenting opinion, three justices held that the "public-private distinction drawn by the Court is both illusory and without precedent" (United Haulers, Dissenting at 3). They further noted that "the only real difference between the facility at issue in Carbone and its counterpart in this case is that title to the former had not yet formally passed to the municipality" (United Haulers, Dissenting at 3).

IV. Summary and Looking Ahead

Table 8 summarizes this review of the cases by chronologically listing them by the stage of waste management (such as collection, hauling, or processing) and the legal basis considered. In all cases, stricter environmental and health regulations led to major changes in technology and

market organization of waste management over the past decades. A traditionally provincial local service—the town dump—was transformed into a nationwide industry. The new industrial organization sought to balance the transportation costs of long-haul waste shipments with the opportunity to arbitrage differences in disposal fees. The sheer geographic girth of the market—yet the allocation of responsibility for regulatory oversight by state and local government—made conditions ripe for interstate tension. As illustrated by the chronology in Table 8, the earliest challenges to the new industry involved interstate shipments as industry sought to balance the transportation costs of long-haul waste shipments with the opportunity to arbitrage differences in disposal fees. A series of lower court and Supreme Court findings struck down local government intervention in the form of restricting interstate shipments of waste. The general agreement of the courts on this matter provoked state and local government officials, prompting congressional proposals for legislative exemptions to the commerce clause.[17] But there are many stages of waste processing, from initial generation by the consumer to final disposal, and correspondingly many ways for other types of intervention in the market. The chronology shows these next attempts. On these challenges (intrastate restrictions, market participation, exclusive franchises, and special levies) the findings have been mixed, the signals are far from easily generalized, and waste may yet continue to be on the docket. At odds in many respects with the earlier decision, the most recent Supreme Court finding upheld public ownership of a disposal facility as an appropriate basis for state intervention.

Changes in waste practices and their place in interstate commerce may be a more prosaic version of other technology-induced challenges confronting the courts. Already the Supreme Court has struck down states' attempts to restrict Internet-enabled e-commerce in in-state sale of out-of-state wine (Granholm, Governor of Michigan, et al. v. Heald et al.; at http://laws.findlaw.com/us/1000/03-1116.html, accessed March 8, 2009). A California court's finding (Cal. App. 4th People/a115390) against Internet sales of prescription drugs by prescribers not licensed in the state of purchase is another illustration (see Ramasastry 2007). Technological change in many forms could lead to further erosion of the traditional geographic bounds that defined markets in the past and continue to place the courts in the center of commerce clause proceedings.

[17] In Fall 1995, the U.S. Senate passed S. 534, "The Interstate Transportation of Municipal Solid Waste Act of 1995," which granted state governors the authority to restrict out-of-state waste imports and allowed importing states to levy a surcharge on waste imports. In March 1999, restrictions similar to these were contained in S. 663 and its companion bill in the House of Representatives H.R. 1190. See Ley et al. (2002) for additional discussion of these proposals.

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Figures and Tables

Figure 1. Post-RCRA Contemporary Waste Management Steps

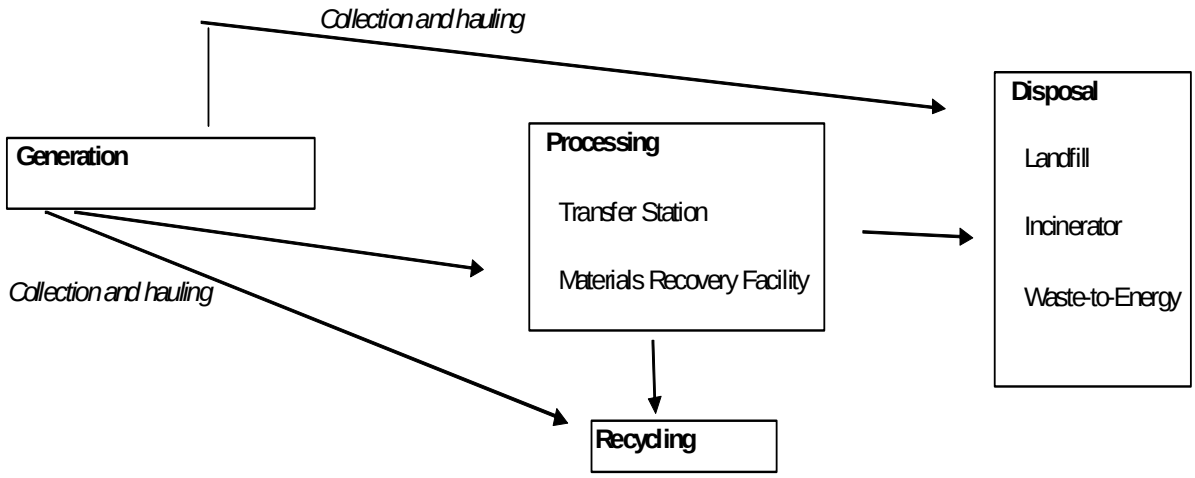
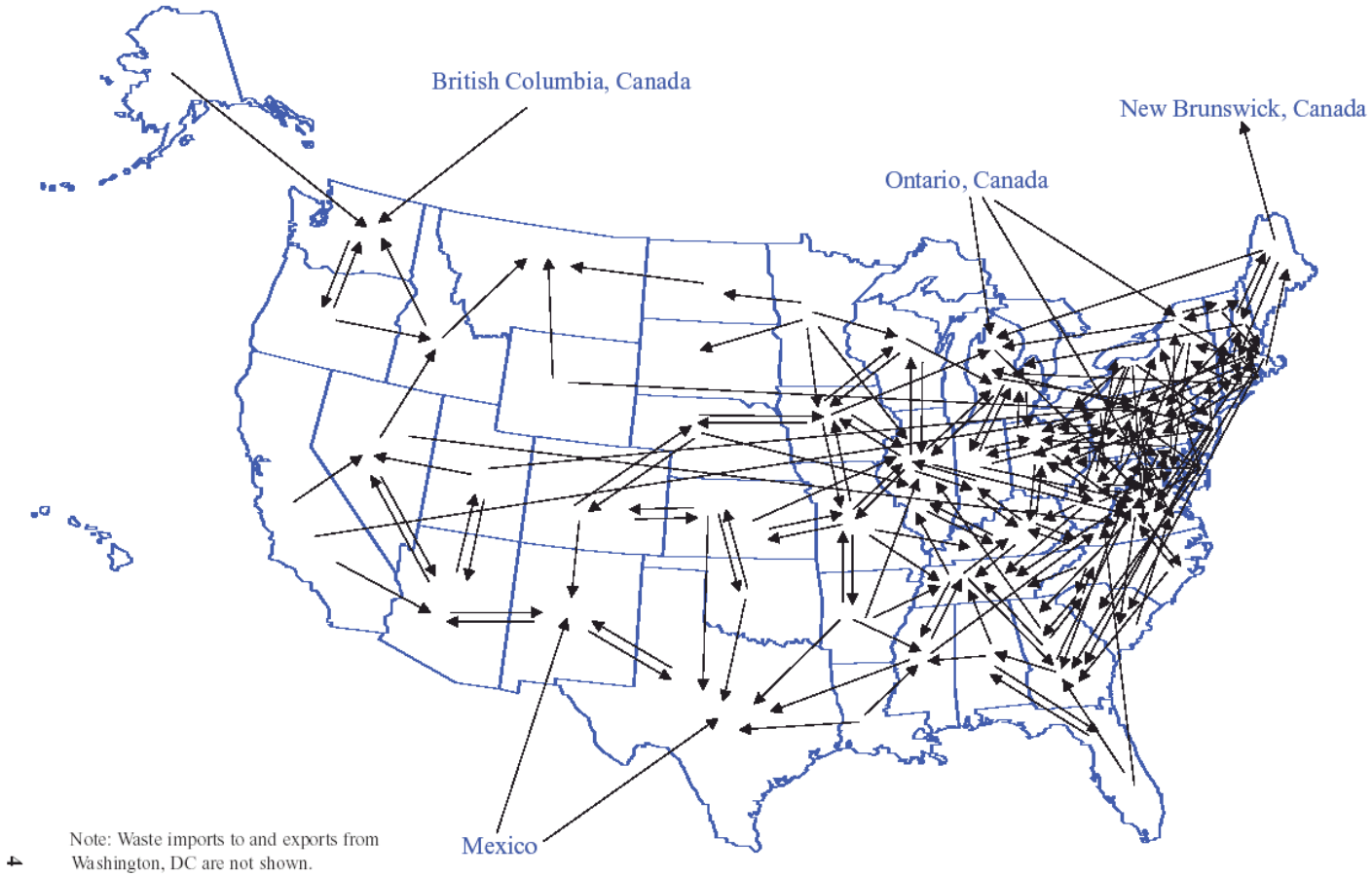


Figure 2. Interstate Waste Movements 2003



Source: Repa 2005a.

Table 1. Waste Generation and Disposal Trends

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Year	**Number of Landfills**	**Annual Percent Decline in Number of Landfills**	**Waste Generation**	**Waste to Landfills**	**Waste per Landfill**	**Waste Recycled**	**Number of Materials Recovery Facilities**
			million tons	*million tons*	*million tons*	*million tons*	
1988	7924	--	n/a	n/a	n/a	n/a	n/a
1989	7379	0.07	n/a	n/a	n/a	n/a	n/a
1990	6326	0.14	205.2	142.3	0.02	29	n/a
1991	5812	0.08	196.8	125.9	0.02	32.8	n/a
1992	5386	0.07	202.2	128	0.02	36	n/a
1993	4482	0.17	205.4	127.6	0.03	37.9	n/a
1994	3558	0.21	209.6	125.2	0.04	43.5	n/a
1995	3197	0.10	208	118.4	0.04	46.6	310
1996	3091	0.03	210	116.2	0.04	46	363
1997	2514	0.19	217	119.6	0.05	48.6	380
1998	2314	0.08	223.4	127.8	0.06	47.9	n/a
1999	2216	0.04	230.9	132	0.06	50.1	480
2000	1967	0.11	238.3	135.3	0.07	52.8	480
2001	1858	0.06	231.2	128.3	0.07	51.4	480
2002	1767	0.05	239.4	135.5	0.08	53.8	n/a
2003	n/a	n/a	236.2	130.8	n/a	55.4	n/a
2004	n/a	n/a	249.2	136.9	n/a	57.5	n/a
2005	1754	n/a	248.2	135.6	0.08	58.6	n/a
2006	1754	0.00	251.3	138.2	0.08	61	567

Source: Municipal Solid Waste in the United States: Facts and Figures. Various years, U.S. EPA.

Table 2. Landfill Tip Fees, $/ton

	Tip Fees, $/ton				
Region	2006	2004	2002	2000	1998
Northeast	67.21	70.53	69.07	69.84	66.68
Mid-Atlantic	56.25	46.29	45.26	45.84	44.11
South	36.40	30.97	30.43	30.53	30.89
Midwest	34.22	34.69	34.14	32.85	30.64
South Central	26.10	24.06	23.28	21.90	21.02
West Central	40.81	24.13	23.40	22.29	22.51
West	40.10	37.74	38.90	34.54	36.08
National	42.40	34.29	33.70	32.19	31.81

Regions:
Northeast: CT, ME, MA, NH, NY, RI, VT
Midwest: IL, IN, IA, MI, MN, MO, OH, WI
Mid-Atlantic: DE, MD, NJ, PA, VA, WV
South Central: AZ, AR, LA, NM, OK, TX
South: AL, FL, GA, KY, MS, NC, SC, TN
West Central: CO, KS, MT, NE, ND, SD, UT, WY
West: AK, CA, HI, ID, NV, OR, WA

Sources: Repa (2005b); for 2006, Arsova et al. (2008).

Table 3. Cases Involving Interstate Transport

Case, Citation, and Date	Synopsis	Main Holding
Philadelphia v. New Jersey 437 US 617 1978 Downloaded from http://supreme.justia.com/us/437/617/ US Supreme Court Center> US Supreme Court Cases & Opinions v437 2/18/09	A New Jersey statute prohibited importation of MSW originating or collected outside of the State.	The Court found the statute in violation of the commerce clause.
Chemical Waste Management Inc v. Hunt 504 US 334 1992 Downloaded from http://supreme.justia.com/us/504/334/ US Supreme Court Center> US Supreme Court Cases & Opinions> v504 2/18/09	An Alabama statute imposed a special fee on hazardous waste generated outside but disposed of inside the State.	The Court found the statute in violation of the commerce clause.
Fort Gratiot Landfill v. Michigan Department of Natural Resources 504 US 353 1992 Downloaded from http://supreme.justia.com/us/504/353/ US Supreme Court Center, US Supreme Court Cases & Opinions> v504 2/18/09	A Michigan statute prohibited private landfill operators from accepting solid waste originating outside the county, state, or country in which their facilities operate.	The Court found the statute in violation of the commerce clause.
Oregon Waste Systems v. Environmental Quality Commission of State of Oregon 511 US 93 1994 Downloaded from http://supreme.justia.com/us/511/93/ US Supreme Court Center, US Supreme Court Cases & Opinions> v511 2/18/09	An Oregon statute imposed a special fee on in-state disposal of MSW generated outside of the State.	The Court found the statute in violation of the commerce clause.
National Solid Wastes Management Association v. Meyer 165 F.3d 1151 (7th Cir.) 1999 Downloaded from lexisone.com (U.S. Court of Appeals Combined Cases) 2/18/09	A Wisconsin statute required as a condition for disposal of out-of-state waste that the exporting community adopt an ordinance incorporating the mandatory components of the Wisconsin recycling program.	The Court found the statute in violation of the commerce clause.
Harper v. Public Service Commission of West Virginia No. 03-00516 (S.D.W.Va. April 11, 2006) Downloaded from http://pacer.ca4.uscourts.gov/opinion.pdf/041444.P.pdf 2/17/09	A West Virginia statute required that waste haulers have "certificates of convenience and necessity" as issued to common carriers by the state Public Service Commission.	The Court found that the certificate requirement was a "substantial barrier" to entry into the West Virginia waste collection market and imposed a burden on interstate commerce in excess of putative local benefits.

Table 4. Cases Involving Nondiscriminatory Flow Control

Case, Citation, and Date	Synopsis (how the flow was controlled)	Main Holding
Harvey & Harvey, Inc. v. County of Chester 68 F.3d 788 (3d Cir.) 1995 Downloaded from lexisone.com (U.S. Court of Appeals Combined Cases) 2/18/09	A Chester County (PA) ordinance required waste disposal at a county-designated facility within the state.	The Court found that the requirement did not discriminate against interstate commerce in terms of export and import of waste from other states; however, the Court noted that the county may not have give due consideration to use of out-of-county and out-of-state disposal facilities and remanded for further proceedings.
Houlton Citizens Coalition v. Town of Houlton 175 F.3d 178 (1st Cir.) 1999 Downloaded from lexisone.com (U.S. Court of Appeals Combined Cases) 2/18/09	Houlton (ME) competitively awarded an exclusive contract for waste hauling and required all waste to be collected and processed at a local town transfer station.	The Court found that the bidding process was open and accessible with a "level playing" field and did not violate the commerce clause.
Maharg, Inc. v. Van Wert Solid Waste Management District 249 F.3d 544 (6th Cir.) 2001 Downloaded from lexisone.com (U.S. Court of Appeals Combined Cases) 2/18/09	Van Wert County (OH) required that disposal facilities used for the county's waste be on a designated list. In addition, users had to pay the county a fee per ton of waste disposed; the fee revenue was to finance the county's waste plan.	The Court found that the facility use and fee requirements did not violate the commerce clause because they did not differentially treat in- and out-of-state waste.
United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority 2007 Downloaded from U.S. Supreme Court http://www.supremecourtus.gov/opinions/06pdf/05-1345.pdf 2/18/09	The Oneida-Herkimer Solid Waste Management Authority (NY) required private haulers to obtain permits to collect waste in the counties, to deliver waste to the Authority's facility for processing and to pay the Authority tip fees to finance the Authority's facility.	The Court found that the dormant commerce clause allows for a distinction between laws that benefit public as opposed to private facilities.

Table 5. Cases Involving Fees to Control Flow

Case, Citation, and Date	Synopsis (how the flow was controlled)	Main Holding
Zenith/Kremer Waste Systems, Inc. v. Western Lake Superior Sanitary District 572 N.W. 2d 300 (Minn.) 1997 Downloaded from lexisone.com (Court of Appeals of Minnesota) 2/18/09	The District (MN) levied a waste management tax and used the tax to service debt on waste processing facilities.	The Court held that the tax and its use did not discriminate against interstate commerce, and that any benefit to the community outweighs any burden on interstate commerce.
Oxford Associates v. Waste System Authority of Eastern Montgomery Cty 271 F.3d 140 (3d Cir. 2001*)* Downloaded from lexisone.com (U.S. District Court Cases, Combined) 2/18/09	The County (PA) enacted an ordinance requiring all waste to be processed at the County-owned waste-to-energy facility and to pay an "above market" tip fee to finance the facility.	The Court held that the ordinance violated the commerce clause.
Waste Connections of Nebraska, Inc. v. City of Lincoln 269 Neb. 855 (May 27, 2005) Downloaded from lexisone.com (Nebraska Supreme Court Cases) 2/18/09	The County (NE) levied a tax on waste collection for waste to be disposed in Nebraska but not if exported outside the state. The revenue was to finance the County's disposal facilities.	The Court held that the tax discriminated against within-state but not interstate shipments of waste and therefore did not violate the commerce clause.

Table 6. Cases Involving Intrastate Flow Control

Case, Citation, and Date	Synopsis (how the flow was controlled)	Main Holding
C&A Carbone, Inc. v. Town of Clarkstown, New York 511 US 383 1994 Downloaded from http://supreme.justia.com/us/511/383/case.html US Supreme Court Center> US Supreme Court Cases & Opinions, Volume 511 2/18/09	The Town enacted an ordinance requiring nonrecyclable residue to be processed at the town's transfer station and levied an above-market fee. The station was owned and operated by a private company although the Town was to buy the facility within a few years; in the interim, the Town was to guarantee a minimum flow of waste.	The Court found that the ordinance discriminated against interstate commerce by treating in- and out-of-state waste interests differently and that the state had other means to advance any legitimate local interest under the Pike balancing test.
Ben Oehrleins and Sons & Daughter, Inc. v. Hennepin County 15 F.3d 1372 (8th Cir.) 1997 Downloaded from http://www.ca8.uscourts.gov/opndir/97/06/962120P.pdf (U.S. Court of Appeals for the 8th District) 2/18/09	Hennepin County (MN) enacted an ordinance requiring that most county waste be delivered to county-designated transfer stations or processing facilities.	The Court held that the ordinance discriminated against interstate commerce. However, the Court also held that the application of the ordinance solely to waste handled by intrastate disposal did not discriminate against interstate commerce because under a balancing test, benefits to the country of managing waste exceeded any burden on interstate commerce.
U&I Sanitation v. City of Columbus 205 F.3d 1063 (8th Cir.) 2000 Downloaded from http://www.ca8.uscourts.gov/opndir/00/02/981893P.pdf (U.S. Court of Appeals for the 8th District) 2/18/09	The city of Columbus (NE) enacted an ordinance requiring all waste collected within the city limits be processed at a city-owned transfer station (except for waste destined for out-of-state disposal).	The Court held that because the ordinance did not explicitly favor a local interest over out-of-state interests, the ordinance did not violate the CC. However, under a test to balance benefits to the locality and the burden imposed on interstate commerce, the Court found an excessive burden.
IESI Ar. Corp. v. Northwest Arkansas Regional Solid Waste Mgmt. Dist. 433 F.3d 600 (8th Cir.) 2006 Downloaded from: http://www.ca8.uscourts.gov/opndir/06/01/051299P.pdf (U.S. Court of Appeals for the 8th District) 2/18/09	An Arkansas county required waste flows to be approved before export to other facilities within the state. Independent waste haulers claimed that this forced them to use only the sole in-county landfill and discouraged them from using a private transfer station from which the owner shipped waste out of the county to his own landfill. The in-county landfill was privately owned and operated.	The Court held that the county requirement did not discriminate against interstate commerce.

CC—commerce clause

Case, Citation, and Date	Synopsis (how the flow was controlled)	Main Holding
SSC Corp. v. Town of Smithtown 66 F.3d. 502 (2nd Cir.) 1995 Downloaded from lexisone.com (U.S. District Court Cases, Combined) 2/18/09 (This case was argued the same day and in the same court as *USA Recycling*, below)	The Court considered an ordinance by Smithtown, NY, to require disposal of all residential and commercial waste at a privately owned and operated incinerator (financed by the town) and a town contract with (multiple) private haulers requiring all to use the incinerator.	The Court found that the ordinance constituted market regulation because it directed all waste to a single facility, to the exclusion of in-state and out-of-state competitors, thus violating the CC. But the Court also found that the hauling contract constituted market participation in collection and disposal, thus an exception to the CC.
USA Recycling, Inc. v. Town of Babylon 66 F.3d. 1271 (2d Cir.) 1995 Downloaded from lexisone.com (U.S. District Court Cases, Combined) 2/18/09	The Court considered waste management practices by Babylon, NY, which hired a single contractor to collect all waste within a newly created commercial garbage district and allowed free use of a local, privately operated, town-owned incinerator. The town assessed a fee on all commercial property and assessed user fees on commercial waste generators to finance the incinerator.	In the town's relationship with the hauler, the Court found market regulation but no violation of the CC because the town "has eliminated the market entirely" by publicly providing services rather than requiring the hauler to buy processing or disposal services from a local facility. In the town's relationship with the incinerator facility, the Court found market participation exempt from the CC because the town purchased services from the incinerator operator.
National Solid Waste Management Association v. Charles W. Williams 146 F. 3d 593 (8th Cir.) 1998 Downloaded from lexisone.com (U.S. District Court Cases, Combined) 2/18/09	A Minnesota statute required government offices to manage their waste according to county waste plans, which included a requirement that all county waste be hauled to a specific facility.	The Court found that the state, in directing that all county waste be hauled to a specific facility, acted as a market participant in directing the purchasing behavior of the county and therefore did not violate the CC. (The court noted but did not find applicable a previous legal finding that when a state imposes requirements on local government without any state financial support or supervision, the state is a regulator outside of the market participant exception.)
Huish Detergents Inc v. Warren County 213 F.3d.707 (6th Cir.) 2000 Downloaded from lexisone.com (U.S. District Court Cases, Combined) 2/18/09	The county awarded a competitively selected, exclusive franchise to collect all MSW generated in the county, operate the publicly owned transfer station, and use only a state-approved and -permitted landfill.	The Court found that the county violated the CC by designating a single in-state processing facility, prohibiting out-of-state disposal, and using regulatory power, not "purchasing power," to require residents to use only the franchisee's services. Thus the County did not act as a market participant because the County neither bought nor sold disposal services with taxpayer funds.
Southern Waste Systems LLC v. City of Delray Beach (11th Cir.) 2005 Downloaded from lexisone.com (U.S. District Court Cases, Combined) 2/18/09	The city awarded a competitively selected, exclusive franchise to provide comprehensive residential and commercial waste collection and residential recycling.	The Court found that the city did not violate the CC because bidding was open to all in- and out-of-state companies and the contract did not restrict geographically the processing or disposal of waste.

CC—commerce clause

Table 7. Cases Involving Market Participation by a Government Entity

	Case	Year	Type of Intervention	Stage of Waste Processing
1	*Philadelphia v. New Jersey*	1978	interstate flow control	collection and hauling
2	*Chemical Waste Management Inc. v. Hunt*	1992	interstate flow control	collection and hauling
3	*Fort Gratiot Landfill v. Michigan Department of Natural Resources*	1992	interstate transport	collection and hauling
4	*C&A Carbone, Inc. v. Town of Clarkstown*	1994	intrastate flow control	processing (recycling, transfer stations, materials processing facilities)
5	*Oregon Waste Systems v. Environmental Quality Commission of State of Oregon*	1994	interstate flow control	disposal (landfill, incinerator, waste-to-energy)
6	*Harvey & Harvey, Inc. v. Chester County*	1995	nondiscriminatory flow control	disposal (landfill, incinerator, waste-to-energy)
7	*SSC Corp. v. Town of Smithtown*	1995	market participant	disposal (landfill, incinerator, waste-to-energy)
8	*USA Recycling, Inc. v. Town of Babylon*	1995	market participant	collection and hauling
9	*Zenith/Kremer Waste Systems, Inc. v. Western Lake Superior Sanitary District*	1997	tax	processing (recycling, transfer stations, materials processing facilities)
10	*National Solid Waste Management Association v. Charles W. Williams*	1998	market participant	disposal (landfill, incinerator, waste-to-energy)
11	*National Solid Wastes Management Association v. Meyer*	1999	interstate transport	collection and hauling
12	*Houlton Citizens Coalition v. Town of Houlton*	1999	exclusive franchise	collection and hauling; disposal (landfill, incinerator, waste-to-energy)
13	*Huish Detergents Inc. v. Warren County*	2000	exclusive franchise	collection and hauling; processing (recycling, transfer stations, materials processing facilities); disposal (landfill, incinerator, waste-to-energy)
14	*Oxford Associates v. Waste System Authority of Eastern Montgomery County*	2001	surcharge	disposal (landfill, incinerator, waste-to-energy)
15	*Maharg, Inc. v. Van Wert Solid Waste Management District*	2001	surcharge	disposal (landfill, incinerator, waste-to-energy)
16	*Southern Waste Systems LLC v. City of Delray Beach*	2005	exclusive franchise	collection and hauling; processing (recycling, transfer stations, materials processing facilities)
17	*Waste Connections of Nebraska, Inc.*	2005	tax	disposal (landfill, incinerator, waste-

	v. City of Lincoln			to-energy)
18	*Harper v. Public Service Commission of West Virginia*	2006	interstate transport	collection and hauling
19	*United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority*	2007	nondiscriminatory flow control, publicly owned facility	disposal (landfill, incinerator, waste-to-energy); processing (recycling, transfer stations, materials processing facilities)

Table 8. Chronological Summary of Cases

Table 8. Chronological Summary by Year of Finding, Type of Intervention, and Stage of Waste Management				
	Case	Year	Intervention	Stage of Waste Management
	Philadelphia v. New Jersey	1978	Interstate flow control	Collection and hauling
	Chemical Waste Management Inc. v. Hunt	1992	Interstate flow control	Collection and hauling
	Fort Gratiot Landfill v. Michigan Department of Natural Resources	1992	Interstate transport	Collection and hauling
	C&A Carbone, Inc. v. Town of Clarkstown	1994	Intrastate flow control	Processing (recycling, transfer stations, materials processing facilities)
	Oregon Waste Systems v Environmental Quality Commission of State of Oregon	1994	Interstate flow control	Disposal (landfill, incinerator, waste-to-energy)
	Harvey & Harvey, Inc. v. Chester County	1995	Non-discriminatory flow control	Disposal (landfill, incinerator, waste-to-energy)
	SSC Corp. v. Town of Smithtown	1995	Market participant	Disposal (landfill, incinerator, waste-to-energy)
	USA Recycling, Inc. v. Town of Babylon	1995	Market participant	Collection and hauling
	Zenith/Kremer Waste Systems, Inc. v. Western Lake Superior Sanitary District	1997	Tax	Processing (recycling, transfer stations, materials processing facilities)
	National Solid Waste Management Association v. Charles W. Williams	1998	Market participant	Disposal (landfill, incinerator, waste-to-energy)
	National Solid Wastes Management Association v. Meyer	1999	Interstate transport	Collection and hauling
	Houlton Citizens Coalition v. Town of Houlton	1999	Exclusive franchise	Collection and hauling; Disposal (landfill, incinerator, waste-to-energy)
	Huish Detergents Inc. v. Warren County	2000	Exclusive franchise	Collection and hauling; Processing (recycling, transfer stations, materials processing facilities); Disposal (landfill, incinerator, waste-to-energy)
	Oxford Associates v. Waste System Authority of Eastern Montgomery County	2001	Surcharge	Disposal (landfill, incinerator, waste-to-energy)
	Marharg, Inc. v. Van Wert Solid Waste	2001	Surcharge	Disposal (landfill, incinerator,

	Management District			waste-to-energy)
	Southern Waste Systems LLC v. City of Delray Beach	2005	Exclusive franchise	Collection and hauling; Processing (recycling, transfer stations, materials processing facilities)
	Waste Connections of Nebraska, Inc. v. City of Lincoln	2005	Tax	Disposal (landfill, incinerator, waste-to-energy)
	Harper v. Public Service Commission of West Virginia	2006	Interstate transport	Collection and hauling
	United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority	2007	Non-discriminatory flow control, publicly owned facility	Disposal (landfill, incinerator, waste-to-energy) Processing (recycling, transfer stations, materials processing facilities)