

ORDINANCE NO. 432

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AN ORDINANCE RELATING TO THE USE OF DYNAMITE AND BLASTING POWDER; PROVIDING PENALTIES; AND DECLARING AN EMERGENCY.

THE CITY OF CANBY ORDAINS AS FOLLOWS:

Section 1: No person, firm, partnership, corporation, company or association shall explode or cause to be exploded within the City of Canby any dynamite or blasting powder unless a permit is first obtained from the Canby City Council.

Section 2: The application for such permit shall be filed with the City Engineer or City Superintendent as the case may be, on forms to be furnished by the City. The City Superintendent, or City Engineer as the case may be, shall refer the application to the Council at the next regular council meeting or at a special meeting called for the purpose of considering such application.

Section 3: The Council may either grant or deny the application for a permit, taking into consideration: (a) the congestion of persons, the types of buildings within the area where the blasting is to be done according to the application, the volume of vehicular traffic, and the topography in the vicinity of the blasting area; (b) the purpose for which the blasting is to be done, the amount and type of dynamite or blasting powder to be exploded at any one time, and the general qualifications and ability of the person or persons intending to do the blasting; (c) any other factors relevant to public safety;

Section 4: In granting a permit the Council may limit the quantity of the explosive charge to be used at any one time; fix a time during which the explosive charge or charges are to be exploded; and prescribe in the permit the terms and conditions the Council considers necessary for the protection of the public from the dangers of explosion. The City Superintendent or City Engineer as the case may be shall issue the permit as directed by the Council.

Section 5: The Council may revoke a permit: (a) if conditions

considered in granting the permit change in the area or vicinity in which the explosive charge is to be detonated and to the extent that the public or property would likely be endangered by an explosion; (b) if the permittee is convicted of violation of this Ordinance.

Section 6: Before denying or revoking a permit the Council shall give written notice of its proposed action to the applicant or permittee. If within ten days after the date of such notice a hearing is requested by the applicant or permittee the Council shall fix a time within the next thirty days in which it shall hear the objections of the applicant or permittee to the denial or revocation of the permit. Thereafter the decision of the Council shall be final.

Section 7: This Ordinance shall not apply to duly authorized agents or employees of the City of Canby who are engaged in work for the City which requires the use of dynamite or blasting powder, provided that such agents or employees are properly supervised by the City Superintendant or City Engineer as the case may be.

Section 8: Any person violating any of the provisions of this Ordinance shall upon conviction be punished by imprisonment for not to exceed thirty days or by a fine not to exceed \$200.00, or both.

Section 9: It being deemed by the Canby City Council that an emergency exists, this Ordinance shall take effect immediately upon its final passage by the Council and approval by the Mayor.

Adopted by the Canby City Council on the first reading this 21st day of December, 1959, ordered posted in three public and conspicuous places as required by Canby City Charter, and to come up for final reading and action of the City Council at a regular meeting thereof to be held on the 18th day of January, 1960.

ATTEST:

GEORGE IRWIN - Mayor

A. S. MARKEE - City Recorder

Passed on final reading by the Canby City Council this 18th
day of January, 1960 by the following vote: Yeas____, Nays_____.

GEORGE W. IRWIN - Mayor

ATTEST:

A. S. MARKEE - City Recorder

UNIVERSITY OF OREGON
COLLEGE OF LIBERAL ARTS
EUGENE, OREGON

BUREAU OF MUNICIPAL RESEARCH AND SERVICE

October 16, 1959

LETTER OF TRANSMITTAL

Immediately following the Roseburg explosion this office received a number of requests from cities throughout the state for sample ordinances regulating the transportation of explosives. Although a number of cities had such ordinances, they were generally regarded by city officials as being inadequate. An investigation of federal and state regulations and of practices in various cities suggested that it might be desirable to prepare a suggested ordinance regulating both the transportation and storage of explosives.

The enclosed bulletin discusses various problems relating to the transportation and storage of explosives and contains a suggested ordinance. The ordinance has been drafted so as to coordinate city regulations with those issued by the Oregon State Public Utility Commissioner and the Interstate Commerce Commission, and is intended as a general guide for cities wishing to adopt regulations in this field. The ordinance relates only to transportation of explosives by motor vehicle, and not by water and rail. The actual use of explosives is commonly regulated in a separate ordinance.

David J. Saari, legal assistant, has had principal responsibility for preparing this material. He has conferred with representatives of the ICC and the Oregon Public Utility Commissioner and the cooperation of these offices is gratefully acknowledged.

Respectfully submitted,



Director

BUREAU OF MUNICIPAL RESEARCH AND SERVICE
University of Oregon
in cooperation with the
LEAGUE OF OREGON CITIES

Legal Bulletin No. 10

October, 1959

Eugene, Oregon

SUGGESTED ORDINANCE FOR REGULATING
THE STORAGE AND TRANSPORTATION OF EXPLOSIVES

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Explosives are a hazard to the general public, and their transportation, handling, and storage are subject to various federal, state, and local regulations. Cities have authority under their police power to enact reasonable regulations to safeguard the public against these hazards. Cities commonly regulate the storage and use of explosives and some cities regulate their transportation as well.

Generally speaking there has been little attempt by the federal government and by the states to regulate the storage of explosives. With respect to their transportation, federal and state authorities are unable

to enforce safety regulations with the same degree of supervision as cities. Local enforcement is necessary to insure that vehicles carrying explosives do not expose people and property to needless risk.

The following material has to do with the general power of cities to enact regulations in this area, with federal and state laws as they apply to the transportation of explosives, and with the policy problems that cities face in regulating explosives.

Regulating Explosives Under the Police Power

The scope of the police power under which cities may regulate the storage, handling, and transportation of explosives is discussed in the following statements from Rhyne, Municipal Law, § 26-38, p. 575-578 (1957).

"The adoption of reasonable and appropriate regulations for the protection and safety of persons and property from fires and explosions is universally recognized as being within the municipal police power. . . . The regulations with respect to explosions and fires are so intimately related to the safety, lives and property of the inhabitants of a city that it has been said that a municipal corporation has the inherent power to enact ordinances for the protection of the property of its citizens against fire. Not only does a city have the power but it is charged with the duty to adopt proper and reasonable regulations for the protection of the lives and safety of persons and the protection of property against the danger of explosions and fire

"A city ordinarily may regulate the storage, handling and transportation of explosives and combustibles including gas, gunpowder, nitroglycerin, oil, dynamite, blasting powder, inflammable liquids, paper, rags, brushes, fuel, lumber, straw and other inflammables and explosives. A license or permit for the storage or keeping of explosives or combustibles may be required. And the keeping of explosives in certain designated places or in a negligent manner may be abated as a nuisance. Municipalities may regulate or prohibit the storage of explosives or highly combustible substances in certain designated areas, such as within a certain proximity of schools. Lumber yards and the storage of lumber may be controlled under municipal regulations. The transportation of explosives or combustibles and the equipment used in such transportation may be regulated by municipalities."

Federal and State Regulations Relating to Transportation of Explosives

The Interstate Commerce Commission has issued safety regulations with reference to the transportation of explosives in interstate commerce by rail and motor carrier. The regulations applying to motor carriers deal with vehicle design, maintenance procedures, minimum qualifications and maximum hours of service for drivers, and other accident prevention measures. Some of the ICC regulations have been adopted by the Oregon Public Utility Commissioner for application to intrastate motor carriers handling explosives.

The U. S. Coast Guard regulates the shipping of explosives by water and their storage at port facilities.

Cities have authority to regulate the transportation of explosives by motor vehicle within the framework of the ICC regulations. Federal policy in this respect is explained in the following excerpts from the federal code:

"Except as otherwise specifically indicated, Parts 190-197 of this subchapter. [Safety Regulations] are not intended to preclude states or subdivisions thereof from establishing or enforcing state or local laws relating to safety, the compliance with which would not prevent full compliance with these regulations by persons subject thereto." 49 Code of Federal Regulations 190.30 (1959 Supp).

"Every motor vehicle shall be driven in accordance with the laws, ordinances and regulations of the jurisdiction in which it is being operated, unless such laws, ordinances and regulations are at variance with specific regulations of this Commission which impose a greater affirmative obligation or restraint." 49 Code of Federal Regulations 192.3 (1959 Supp).

The ICC regulations that relate specifically to the operation of a motor vehicle carrying explosives and other dangerous materials are found in Title 49, Code of Federal Regulations, Part 197, and are reprinted in Appendix A.

There have been some court decisions limiting the degree of authority cities have to regulate the transportation of explosives. It has been held that cities may not prohibit vehicles carrying explosives from using city streets when truck routes around the city are not practicable or commercially feasible. The courts have found attempted regulation of this

kind to amount, in effect, to a revocation of the carrier's operating certificate. See Watson Bros. Transportation Co. v. City of Omaha, 132 F. Supp. 6 (1955), Boyce Motor Lines, Inc. v. United States, 90 F. Supp. 996, rev'd, 188 F.2d 889, aff'd, 342 U.S. 337, 72 S.Ct. 329, 98 L. Ed. 367 (1951).

Policy Considerations

The regulation of explosives has to take into account both the need for commerce in explosives and the general obligation to insure the maximum safety to the public. Cities should consider several policy questions.

The first question, and perhaps the most important, is whether explosives in any quantity should be stored in the community. A second question is the extent to which the city should follow the ICC and PUC regulations in enacting its own safety measures.

One of the difficulties in determining to what extent explosives should be regulated is in weighing the degree of danger involved against the low frequency of accidents caused by explosives.

The extent to which Oregon cities regulate the storage of explosives varies considerably. Some cities permit storage in only very small quantities, while other cities have no regulations at all. Many businesses find it desirable to store explosives in special buildings in isolated areas outside the city since storing large quantities of explosives in populated areas creates a definite hazard.

The comparatively rapid increase in the volume of long-distance motor freight transport as compared with rail and water transport in recent years probably means that larger and larger quantities of explosives are being hauled by truck. Thus there is good reason for cities to regulate the transport of explosives by motor freight in interstate as well as in intrastate commerce. It appears, however, that a number of Oregon cities, as well as cities in other states, exclude interstate motor carriers from regulation.

In deciding how a city can most effectively regulate the transportation of explosives the ICC regulations are helpful as a guide. Since carriers ordinarily travel through a number of different cities in the course of a few hours, it is desirable that regulations be reasonably uniform. However, it is questionable whether the ICC regulations should be adopted verbatim or by reference. The ICC regulations cover phases of explosives regulations about which cities do not have to be particularly concerned and which they are not ordinarily prepared to enforce. The

suggested ordinance incorporates and enlarges certain provisions of the ICC regulations relating to the operation and servicing of vehicles carrying explosives, and generally speaking the ordinance provides for higher standards than those required under federal law.

Provisions of the Suggested Ordinance

Purpose of the Ordinance. The suggested ordinance regulates the storage of explosives and their transportation by motor vehicle. The provisions relating to storage (1) limit the quantity of explosives that may be stored at any one location and control the manner of storage and (2) provide indirectly for reporting the exact location and maximum amount of explosives in the city through the permit system. The provisions relating to transportation are essentially traffic regulations designed to promote greater safety in the operation of vehicles carrying explosives.

Applicability. The suggested ordinance applies to all persons storing explosives and to all motor vehicles transporting explosives. It does not apply to the use of explosives, nor does it apply to their transportation by rail and water. Although explosives are commonly shipped by rail, any attempt by cities to regulate rail transportation should be handled by a separate ordinance.

Commodities Regulated. The suggested ordinance is limited to explosives, since other dangerous materials such as gasoline, chlorine, paints and varnishes, and certain fertilizers are best regulated by other procedures. The transportation and storage of some of these latter materials are regulated by cities under fire codes or other ordinances, and in some cases by state law. (See ORS 480.410 to 480.480 dealing with liquified petroleum gas.)

Storage. The suggested ordinance aims to limit the quantity of explosives that can be stored without interfering with the sale of small quantities of explosives in the daily course of business. There is no exact amount of explosive material that can be considered safe to store in a city because conditions vary from place to place. The suggested ordinance provides for a flexible permit system which allows the council to examine an applicant's storage facilities and determine the amount of explosives that can be stored safely at each location.

The provision limiting overnight storage to 50 pounds of explosives is based on commercial practice.

Transportation. Provisions relating to transportation are designed for both large and small cities and can be enforced in the same manner as traffic regulations.

Certain sections of the ICC regulations are not included in the suggested ordinance because there are some matters which are best regulated at the state or federal levels. Provisions that have not been included relate to driver qualifications, vehicle design, vehicle markings, personal conduct and condition of the driver, and loading and unloading practices. Also excluded are regulations concerning the manner in which explosives are packaged and labeled for shipment.

Subsections 2 and 4 of Section 13, Section 14, and subsection 3 of Section 15 of the suggested ordinance are variations of some of the federal regulations found in Appendix A. The other transportation regulations are patterned after provisions commonly found in existing city ordinances.

In cities without established truck routes, subsection 1 of Section 13 provides that certain parts of the city be closed to trucks carrying explosives. If the city does have designated truck routes, this provision may not be necessary.

Constant attendance of motor vehicles carrying explosives is required under the ordinance in order to help minimize the dangers inherent in transporting large quantities of explosives.

SUGGESTED ORDINANCE FOR REGULATING
THE STORAGE AND TRANSPORTATION OF EXPLOSIVES

ORDINANCE NO. _____

AN ORDINANCE RELATING TO EXPLOSIVES; AND PROVIDING
PENALTIES.

The city of _____ ordains:¹

Section 1. Purpose. It is the intention of the council that this ordinance shall supplement and shall be uniformly interpreted with the laws and regulations of the United States and the state of Oregon, so far as possible, to avoid an undue burden on commerce.

Section 2. Definitions. As used in this ordinance the singular includes the plural and the masculine includes the feminine and neuter. Except where the context clearly indicates a different meaning, the following words shall mean:

(1) Person. An individual, firm, partnership, corporation, company, or association or the assignees, vendees, lessees, trustees, or receivers of any of them.

(2) Explosives. Chemical compounds, mixtures, or devices, the primary or common purpose of which is to function by explosion with substantially instantaneous release of gas or heat, including but not limited to Class A and Class B explosives as classified by the Interstate Commerce Commission,² nitro-carbo-nitrates and fireworks as defined

¹Use ordaining clause specified by city charter or ordinance. If none is specified, use ordaining clause commonly used by the city.

²The Interstate Commerce Commission classifies explosives as follows:

Class A explosives having detonating or otherwise maximum hazard such as dynamite, nitroglycerin, picric acid, lead azide, fulminate of mercury, black powder, blasting caps, and detonating primers.

Class B explosives having flammable hazard, such as propellant explosives (including some smokeless powders), photographic flash powders, and some special fireworks.

Class C explosives including certain types of manufactured articles which contain Class A or Class B explosives, or both, as components but in restricted quantities, such as small arms ammunition, common fireworks, cordeau detonant, and explosive rivets.

by ORS 480.110¹, but excluding dangerous articles such as flammable liquids, flammable solids, compressed flammable or nonflammable gases, oxidizing materials, corrosive liquids, poisonous liquids or gases, radioactive materials, and small arms ammunition.

Section 3. Applicability.

(1) Except as this ordinance may conflict with the regulations, laws, and constitution of the United States and the state of Oregon, it shall apply to interstate and intrastate commerce.

(2) This ordinance shall not apply to:

(a) The armed forces of the United States or the militia of any state.

(b) The transportation of explosives by rail or by water.

(c) The use of explosives.

Storage Regulations

Section 4. Permit Required. No person may store any explosives unless a permit is first obtained from the council.² A revocable permit valid for _____ year(s) may be issued by the council.

Section 5. Application for Permit and Renewal. Written application for a permit or for renewal of a permit to store explosives shall be made to the recorder on forms provided by the city. The application shall be accompanied by a permit fee of \$ _____, which shall be returned to the applicant if the application is denied. The recorder shall refer the application to the council at the next regular council meeting.

Section 6. Consideration of Application. The council may either grant or deny the application for a permit, taking into consideration:

(1) The congestion of persons, the type of buildings, the volume of vehicular traffic, and the topography in the vicinity of the storage area.

¹Oregon law defines fireworks to include materials used in special displays, but excludes small fireworks commonly sold in retail stores such as sparklers and toy caps.

²Some cities may wish to delegate the power to issue or deny permits to the manager or other city officer. If this is desired, Sections 4 through 9 should be modified to refer to the proper officer.

(2) The condition and construction of the structure or magazine used or to be used for storage of explosives and the applicable fire zone regulations.

(3) The adequacy of water supply in the storage area.

(4) The American Table of Distances for Storage of Explosives, published by the Institute of Makers of Explosives, September 30, 1955.

(5) Any other factors relevant to public safety.

Section 7. Issuance of Permit. In granting a permit, the council may limit the quantity of explosives which may be stored by the applicant and may prescribe in the permit the terms and conditions the council considers necessary for the protection of the public from the dangers of explosion. The recorder shall issue the permit as directed by the council.

Section 8. Overnight Storage. No permit may be granted to store or keep over 50 pounds of explosives or over 500 blasting caps¹ any place within the city between the hours of 6:00 p.m. and 7:00 a.m. of the following day.

Section 9. Revocation of Permit. The council may revoke a permit:

(1) If conditions considered in granting the permit change at the storage area or in the vicinity and the public is endangered by the storage of explosives as authorized by the permit.

(2) If the permittee is convicted of a violation of this ordinance.

(3) If the permittee is convicted for violation of federal or state laws or regulations relating to safety in storing and transporting explosives.

Section 10. Hearing on Denial or Revocation of Permit. Before denying or revoking a permit, the council shall give written notice of its proposed action to the applicant or permittee. If, within 10 days after the date of such notice, a hearing is requested by the applicant or permittee, the council shall fix a time within the next 30 days in which it shall hear the objections of the applicant or permittee to the denial or revocation of the permit. Thereafter the decision of the council shall be final.

¹These figures are suggested in order to permit sales of small quantities of explosives, e.g., sales of dynamite by the stick; however, it should be noted that there are no exact limits on quantities of explosives which may be stored safely because location, congestion, and similar factors determine the degree of danger.

Section 11. Inspections. It shall be the duty of the fire chief to enforce the provisions of this ordinance relating to storage, and he shall regularly inspect buildings where explosives are stored to determine whether storage practices conform to the provisions of this ordinance and the limitations imposed by the permit.

Transportation Regulations

Section 12. General Applicability. Every motor vehicle transporting explosives shall be operated in compliance with this ordinance unless federal or state laws and regulations impose a greater affirmative obligation or a greater restraint, or unless compliance with this ordinance would prevent full compliance with federal or state laws or regulations by persons subject thereto.

Section 13. Operation of the Vehicle. Persons shall operate motor vehicles transporting explosives with the highest degree of care to decrease the probability of danger to life and property in the following manner:

(1) The vehicle shall not be driven into the following designated area: _____ (street description) .¹

(2) The vehicle shall be driven only upon designated truck routes,² except when delivering or receiving explosives off such truck routes, in which event the vehicle shall be driven upon a route prearranged with the chief of police³ to avoid, whenever possible, congested streets; heavy traffic; bus routes; viaducts; dangerous crossings; and any dwellings, buildings, or places where persons work, congregate, or assemble.

(3) Except when passing, the vehicle shall be kept at least 300 feet behind other motor vehicles transporting explosives moving in the same direction.

¹Some areas of the city may be congested and the hazards too great to allow entry of such vehicles. Use of truck routes as described in subsection (2) of Section 13 would accomplish the same purpose.

²This provision would be adequate if the city has designated truck routes as authorized in ORS 483.532, 483.542, and 483.544.

³Such local routes may be prearranged in different ways depending upon the amount of traffic in explosives. For businesses regularly receiving or delivering explosives local routes may be generally established for each business, while a single delivery or pickup at an irregular location may be specially prearranged.

(4) The vehicle shall not be driven near fires of any kind burning on or near a street until passage can be made safely.

Section 14. Competent Person to Attend Vehicle. When transporting explosives the vehicle shall be attended by a competent person whose primary duty is to attend the vehicle. Such person shall be within sight of and in close proximity to the vehicle and shall have on his person the appropriate keys for starting the vehicle. Vehicles are deemed unattended when left in care of a person on duty in the regular course of another business such as service station attendants, motel operators, or merchant patrolmen. The police are authorized to move unattended vehicles to a safe place, and to enter premises at any time to remove an unattended vehicle loaded with explosives.

Section 15. Parking and Stopping Restricted.

(1) Except as provided in this section, no person may park a vehicle loaded with explosives in the city for any purpose, and no person may stop such a vehicle for any reason except momentarily to comply with moving traffic laws.

(2) A person may park an attended vehicle for the sole purpose of, and while physically engaged in, loading or unloading explosives from the vehicle, or changing drivers.

(3) No person may refuel a vehicle within the city except in extreme emergency and then only with enough fuel to enable it to proceed to the first refueling point beyond the city. The engine of the vehicle shall be stopped during refueling.

Section 16. Disabled Vehicles.

(1) If a vehicle transporting explosives is disabled, the driver shall immediately cause notice to be given to the police and fire departments.

(2) The fire chief shall determine whether or not the vehicle may be moved, and where it may be repaired when loaded.¹

(3) If the disabled vehicle is moved when loaded with explosives, it shall be moved with a police escort to a location where repairs can be made without endangering life or property.

(4) If transfer of the explosives is imperative, persons making the transfer shall employ adequate safety measures under the supervision of the fire and police departments.

¹Vehicles loaded with explosives may not be repaired in garages or repair shops. See ICC regulation, Title 49, Code of Federal Regulations, Section 77.854(g) (1956 revised ed.).

General

Section 17. Penalty. Any person violating any of the provisions of this ordinance shall, upon conviction, be punished by imprisonment for not to exceed _____ days or by a fine not to exceed \$ _____, or both.

Section 18. Severability. If a part of this ordinance is declared invalid, all valid parts that are severable from the invalid part remain in effect. If a part of this ordinance is invalid in one or more of its applications, that part shall remain in effect in all valid applications that are severable from invalid applications.

Section 19. Repeal. Ordinance No. _____ is hereby repealed.

APPENDIX A

INTERSTATE COMMERCE COMMISSION REGULATIONS RELATING TO THE OPERATION OF VEHICLES CARRYING EXPLOSIVES

The following excerpts from ICC regulations have provided a basis for transportation regulations in the suggested ordinance. The regulations are from Title 49, Code of Federal Regulations, Section 197.1. Other federal regulations referred to in drafting the suggested ordinance are found in Title 49, Code of Federal Regulations, Parts 71 through 78 and Parts 190 through 196.

Section 197.1. Driving Rules.

(a) Applicability. Every motor carrier, and its officers, agents, drivers, representatives and employees directly concerned with the transportation of explosives and other dangerous articles shall comply and be conversant with the requirements of this section. This section shall be applicable with respect to motor vehicles transporting:

(1) Any quantity of class A explosives, class A poison gas, or class D poison requiring a red radioactive materials label.

(2) 2,500 pounds gross weight (contents and containers) of class B explosives, flammable liquids, flammable solids, oxidizing materials, corrosive liquids, compressed gases, class B poisons, class C poisons, or class D poisons not requiring a red radioactive materials label.

(3) 5,000 pounds or more gross weight (contents and containers) of two or more different classes of dangerous articles set forth in subparagraph (2) of this paragraph.

(4) Cargo tank motor vehicles used for the transportation of dangerous articles, regardless of the amount of dangerous articles being transported, or whether loaded or empty.

(5) Except that paragraphs (b) and (h) of this section shall be applicable without regard to the gross weight of class B explosives being transported.

(6) Except that this section shall not be applicable with respect to motor vehicles transporting those classes of dangerous articles set forth in subparagraph (2) if such articles are, because of size and kind of containers, exempted from the packaging, marking, and labeling requirements of Part 73 of this chapter, provided such exempted commodities do not have a gross weight (contents and containers) exceeding 5,000 pounds.

(b) Motor Vehicles Not to be Left Unattended at Any Time. Motor vehicles transporting class A or class B explosives shall not be left unattended at any time during the course of transportation. Nothing contained in this paragraph shall be construed to relieve the driver of any requirement for the protection of any such motor vehicle when disabled or stopped upon any street or highway as provided in Part 192 of this subchapter.

(c) Motor Vehicles Not to be Left Unattended on Streets or Highways. Motor vehicles transporting dangerous articles other than class A or class B explosives shall not be left unattended upon any public street or highway except when the driver is engaged in performing normal operations incident to his duties as the operator of the vehicle to which he is assigned. Nothing contained in this paragraph shall be construed to relieve the driver of any requirement for the protection of any such motor vehicle when disabled or stopped upon any street or highway as provided in Part 192 of this subchapter.

(d) Avoidance of Congested Places. Motor vehicles transporting explosives and other dangerous articles shall be so driven as to avoid, so far as practicable, and, where feasible, by prearrangement of routes, congested thoroughfares, places where crowds are assembled, street car tracks, tunnels, viaducts, and dangerous crossings.

(e) Reduce Refuelings to Minimum. Except for fuel containers for Diesel engine fuels, the fuel tank or tanks on any motor vehicle in which is to be transported explosives, flammable liquids, flammable compressed gases, or poisonous gases shall be suitably filled prior to the commencement of transportation, and subsequent refilling shall be reduced to the minimum number necessary. If the engine is provided with an electric ignition system, it shall be turned off and the engine stopped during the refueling process; and if with a magneto, it shall be grounded.

(f) Caution Passing Fires. Motor vehicles transporting explosives, flammable liquids, flammable solids, oxidizing materials or flammable compressed gases shall not be driven past fires of any kind burning on or near the highway or other thoroughfare until after having taken due caution to ascertain that such passing can be made with safety.

(g) No Smoking While Driving. Smoking on or about any motor vehicle loaded with or transporting explosives, flammable liquids, flammable solids, oxidizing materials, or flammable compressed gases, or smoking on or about any tank motor vehicle used for the transportation of the liquids described is forbidden.

(h) Parking in Congested Places. Except where the necessities of the operation make impracticable the application of this paragraph, no motor vehicle transporting any class A or class B explosive shall be parked, even though attended, on any public street adjacent to or in proximity to any bridge, tunnel, dwelling, building, or place where persons work, congregate, or assemble.

(i) Safety Matches. Drivers or anyone else, except passengers on buses, upon a motor vehicle transporting flammable liquids or any tank motor vehicle used for the transportation of such dangerous articles, whether loaded or empty, may carry only matches commonly known as "safety matches."

(j) Jars, Jolts, Etc. Motor vehicles transporting corrosive liquids shall be so driven as to avoid violent jars, jolts, bumps, or sudden accelerations or decelerations in any direction likely to produce shifting or breaking of the contents of the motor vehicle.

APPENDIX B

THE AMERICAN TABLE OF DISTANCES
FOR STORAGE OF EXPLOSIVES

The following table is an excerpt from the American Table of Distances for Storage of Explosives, which is issued by the Institute of Makers of Explosives as a recommended guide for storage. For example, it is recommended that 50 pounds of explosives stored in a barricaded building should be located at least 150 feet from an inhabited building and at least 60 feet from a passenger railway or a public highway. The table is referred to in Section 6 of the suggested ordinance as one means of evaluating an application to store explosives in a city.

AMERICAN TABLE OF DISTANCES FOR STORAGE OF EXPLOSIVES

(When a building containing explosives is not barricaded the distances shown in the table shall be doubled.)

<u>Explosives</u> Pounds Not Over	<u>Distances in Feet when Storage is Barricaded</u>		
	<u>Inhabited Buildings</u>	<u>Passenger Railways</u>	<u>Public Highways</u>
5	70	30	30
10	90	35	35
20	110	45	45
30	125	50	50
40	140	55	55
50	150	60	60
75	170	70	70
100	190	75	75
125	200	80	80
150	215	85	85
200	235	95	95
250	255	105	105
300	270	110	110
400	295	120	120
500	320	130	130
600	340	135	135
700	355	145	145
800	375	150	150
900	390	155	155
1,000	400	160	160
1,200	425	170	165
1,400	450	180	170
1,600	470	190	175
1,800	490	195	180
2,000	505	205	185
2,500	545	220	190
3,000	580	235	195
4,000	635	255	210
5,000	685	275	225

Notes to American Table of Distances for Storage of Explosives

"Barricaded" means that a building containing explosives is effectually screened from a magazine, building, railway, or highway, either by a natural barricade, or by an artificial barricade of such height that a straight line from the top of any sidewall of the building containing explosives to the eave line of any magazine, or building, or to a point 12 feet above the center of a railway or highway, will pass through such intervening natural or artificial barricade.

"Inhabited buildings" shall mean buildings or structures regularly used in whole or part as a place of human habitation. The term "inhabited building" shall mean any church, school, store, railway passenger station, airport terminal for passengers, and any other building or structure where people are accustomed to congregate or assemble, but excluding any building or structure occupied in connection with the manufacture, transportation, storage, and use of explosives.

"Natural barricade" means natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures which require protection cannot be seen from the magazine when the trees are bare of leaves.

"Artificial barricade" means an artificial mound or revetted wall of earth of a minimum thickness of three feet.

(Approved September 30, 1955)