
REPORT BY THE

Comptroller General

OF THE UNITED STATES

Actions Needed To Increase Bicycle/ Moped Use In The Federal Community

If the Federal Government wants to encourage the use of bicycles and mopeds by its employees and others, it will have to take the initiative with programs and funds directed toward eliminating the factors perceived as barriers. Federal departments should actively promote the use of these vehicles where feasible at facilities and installations under their jurisdiction.

Provisions should also be made to reimburse Federal employees using their bicycles and mopeds on official travel.



EMD-81-41

JANUARY 19, 1981

C 14494

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-201654

The Honorable John L. Burton
Chairman, Subcommittee on Government
Activities and Transportation
Committee on Government Operations
House of Representatives

The Honorable William V. Roth, Jr.
Chairman, Committee on Governmental
Affairs
United States Senate

This report summarizes the results of our study to determine what needs to be done to encourage greater use of bicycles and other two-wheeled vehicles in the Federal community and to assess the proposal to reimburse those who use these vehicles for official travel. The study was conducted pursuant to the requests of your respective committees contained in their reports on H.R. 7072--a bill to amend per diem, subsistence, and mileage allowance rates for Government employees.

The report discusses the conditions perceived as barriers which preclude more serious and wide-spread consideration of bicycles and mopeds as alternative modes of transportation. It also provides a brief summary of past and ongoing Government actions and programs dealing with cycling and presents data on the cost of owning and operating a bicycle and moped.

As directed, in performing this review we consulted with the Departments of Transportation and Energy and with the General Services Administration. We did not, however, have sufficient time to obtain official agency comments. As arranged with your office, copies of this report are being sent

to the Director, Office of Management and Budget; the Secretaries of Transportation, Energy, the Interior, and Defense; the Postmaster General; and the Administrators of General Services and the Environmental Protection Agency.

A handwritten signature in black ink, reading "James B. Stacks". The signature is written in a cursive style with a large, prominent initial "J".

Comptroller General
of the United States

D I G E S T

Increases in the sale and use of bicycles and mopeds during the 1970s demonstrate an increasing awareness of the benefits and potential of these vehicles. Governmental programs, private sector actions, and the number of bicycle groups all indicate the growing interest. Yet, the potential seems to be largely untapped.

WHAT CAN BE DONE TO ENCOURAGE
BICYCLE/MOPED USE?

If Government employees and those visiting Federal buildings and facilities are to increase bicycle/moped usage, existing barriers must be dealt with, and the Government's role must be more clearly defined. In addition, major governmental departments should set the example by identifying opportunities for, and encouraging greater use of, bicycles/mopeds within their departments.

The barriers, both mental and physical, include fears for personal safety, lack of facilities, unresolved legal issues, and attitudinal obstacles.

Decreasing the fear of riding in traffic will necessitate effective education, training, and enforcement of cyclist traffic laws. Provision of facilities, whether they be bikeways, secure parking, or showers and lockers for cyclists, can also serve to reduce barriers. Many State vehicle codes require updating to properly regulate both bicycles and mopeds. Additionally, a general lack of awareness or serious consideration of the bicycle and moped as transportation modes must be overcome. (See p. 5.)

Given these challenges, the Federal Government has begun to move from almost total emphasis on bikeway construction to a more comprehensive consideration of measures to encourage bicycling. The Department of Transportation and the Environmental Protection Agency have been the most active while other departments have largely ignored the bicycle and moped. These departments have not (1) promoted the idea of using bicycles and mopeds, (2) attempted to identify situations where these vehicles could be used, and (3) disseminated information on successful bicycle/moped programs carried out by local management. (See p. 13.)

SHOULD FEDERAL EMPLOYEES BE
REIMBURSED FOR USING BICYCLES/
MOPEDS ON OFFICIAL TRAVEL?

Federal employees should be reimbursed for official travel by bicycle. There are some definite, definable costs associated with owning and operating a bicycle. In fact, the costs incurred in bicycling are quite similar to the costs of owning and operating an automobile or motorcycle--costs which are used by the General Services Administration (GSA) to establish reimbursement rates for these vehicles. Provisions should also be made to reimburse employees using privately owned mopeds on official business. (See p. 21.)

The cost of owning and operating a bicycle, based on data provided by several sources and on rates currently being paid by several government bodies, falls between 3 and 5 cents per mile. The 4-cents-per-mile proposal introduced in the 96th Congress (H.R. 6180) would, therefore, be a reasonable rate for reimbursing Federal employees using their bicycles on official travel.

The cost of owning and operating a moped, based on data provided by the Moped Association of America, ranges from 8.2 to 16.3 cents per mile. A local government reimburses its employees using mopeds at the rate of 8 cents per mile. Thus, based on this

limited data, 8 cents seems to be a reasonable initial rate for reimbursing Federal employees until additional cost data is obtained. (See p. 23.)

CONCLUSIONS

Opportunities exist to increase bicycle/moped use by those working in or visiting Federal buildings and installations. The extent to which these opportunities are realized, however, will depend on the degree to which barriers, both physical and attitudinal, are overcome and the support given by the Congress and by governmental departments in promoting bicycle and moped use.

RECOMMENDATION TO THE SECRETARY OF TRANSPORTATION

The Department of Transportation study, "Bicycle Transportation for Energy Conservation," provides the framework for a comprehensive program to encourage increased use of bicycles and mopeds in the Federal sector. GAO agrees with the study's recommendation that the Department of Transportation should take the lead in this effort and that it should closely coordinate its work with other Federal agencies.

GAO recommends that the Department of Transportation give specific attention to two major barriers--lack of secure parking and shower facilities--which appear to be precluding widespread use of these vehicles by Federal employees. (See p. 20.)

RECOMMENDATION TO THE CONGRESS

GAO recommends that the Congress amend Sections 5704 (a) and 5707 (b)(2) of Title 5 of the United States Code to provide for a maximum allowance of 4 cents a mile to Federal employees using their privately owned bicycles while on official business. An 8-cent-per-mile maximum allowance should also be provided for the use of privately owned mopeds. (See p. 32.)

These allowances would establish the principle of reimbursement for those using their privately owned bicycles and mopeds for official business. Given the limited cost data, the recommended rates of reimbursement are at the low to mid range of the data available and are consistent with existing precedents set by State and local government entities.

Over time, as more cost experience is gained, GSA should be able to validate and refine cost rates and recommend to the Congress appropriate adjustments to the maximum rates.

AGENCY COMMENTS

GAO did not have sufficient time to obtain official agency comments.

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ABBREVIATIONS

DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
GAO	General Accounting Office
GSA	General Services Administration
LAW	League of American Wheelmen
FEMP	Federal Energy Management Program
FHWA	Federal Highway Administration
Metro	Washington Metropolitan Area Transit Authority
NECPA	National Energy Conservation and Policy Act
NHTSA	National Highway Traffic Safety Administration
UMTA	Urban Mass Transportation Administration
UVC	Uniform Vehicle Code

CHAPTER 1

INTRODUCTION

This report presents an analysis of what can be done to increase the use of bicycles and mopeds in the Federal community and makes recommendations regarding the reimbursement of Federal employees who use these vehicles on official travel. The report responds to the requests of the House Committee on Government Operations and the Senate Committee on Governmental Affairs.

In the 96th Congress, during deliberations on H.R. 7072-- a bill to increase the rates for subsistence and mileage allowances for Government employees on official travel--the House Committee on Government Operations considered providing reimbursement to Government employees who use their bicycles on official business. It was proposed that a reimbursement rate of 4 cents a mile be established for official travel by privately owned bicycle or pedal-assisted vehicle.

The Committee's Report on H.R. 7072 (Report No. 96-1021, May 16, 1980), did not recommend including bicycles and other pedal-assisted vehicles for reimbursement although the Committee recognized that: "Greater use of bicycles by Federal employees in lieu of motorized transportation appears to offer opportunities for fuel conservation and perhaps dollar savings." The Committee believed that additional information was needed on (1) the bicycle's potential in the Government and (2) the costs of owning and operating a bicycle or similar mode of transportation. As a result, on June 11, 1980, the Comptroller General was asked to undertake this study and to consult with the Administrator of General Services, the Secretary of Transportation, and the Secretary of Energy. A report with recommendations for administrative or legislative action was required by March 31, 1981. (See app. I.)

In its report on H.R. 7072 (Report No. 96-904, Aug. 18, 1980) the Senate Committee on Governmental Affairs supported the House request for a Comptroller General study. The Senate Committee report states: "The Committee has also noted that there is much new interest being generated in the use of other modes of transportation for official federal government travel" but "* * * it is believed that not enough information is available to equitably determine the proper level of reimbursement of such modes of travel and to answer other relevant questions." The Senate committee asked for the Comptroller General's report to be completed by December 31, 1980, rather than March 31, 1981, as requested by the House committee.

THE BENEFITS AND
POTENTIAL OF BICYCLES

The number of bicycles sold and the amount of bicycle travel have both shown significant increases during the 1970s. Several reasons have been advanced to explain this trend, including concern about the availability and cost of gasoline and concern for the environment and personal health. Some credit for this trend has also been given to the introduction of the lightweight, multi-speed bicycle which has commanded a large portion of market sales from 1972 to the present.

Data provided by the Bicycle Manufacturers Association shows that during the 1970s, Americans purchased 103 million bicycles, double the number sold in the 1960s. Further, the Association estimates that in 1979, 105 million persons were using 95 million bicycles compared to 75.3 million users and 50 million bicycles in 1970.

The trend toward, and the benefits of, increased bicycle travel has not gone unnoticed by the public and private sectors. At the Federal Government level, numerous pieces of legislation have been enacted which were intended to encourage and foster travel by bicycle. While programs in the 1960s and early 1970s were directed toward recreational uses, programs authorized in the last several years show an increased awareness of the potential of bicycles as an alternative mode of transportation.

Public sector awareness is also demonstrated by other levels of government. Many States, for example, have appointed bicycle coordinators whose job is to develop and maintain liaison between Federal, State, and local organizations involved in bicycling programs. In several cases, as discussed in chapter 3, provisions have been made by government bodies to reimburse employees using their bicycles on official business.

Awareness in the private sector is demonstrated by the number of publications on cycling, the number of cycle groups which now exist across the country and, more recently, by the Pro Bike '80 Conference held in North Carolina. The conference attracted over 200 bicycle program experts from all over the country and consisted of 35 workshops dealing with a multiplicity of topics relating to bicycling.

The potential of bicycles as an alternate mode of transportation is put into perspective by the April 1980 U.S. Department of Transportation (DOT) report entitled "Bicycle Transportation for Energy Conservation." From 1975 Census Bureau data, the report concluded that only 470,000 of a possible 3.8 million workers commuted to work by bicycle on any given day in 1975. In another report, DOT estimated that 60 percent of all automobile trips are 5 miles or less, and these short trips represent a large potential for increased bicycle use.

THE EMERGING ROLE OF MOPEDS

The moped is relatively new on the scene although its growth in popularity, based on annual sales figures, has been phenomenal. Based on data provided by the Moped Association of America, sales have increased annually from 25,000 in 1975 to an estimated 300,000 in 1980. The Association estimates that there are now about 1 million mopeds in use in this country.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our primary objectives in conducting this study were to answer the two basic questions which the committees asked:

1. What can be done to encourage bicycle/moped use by those working in or visiting Federal buildings, facilities, or installations?
2. Should Federal employees be reimbursed for using their bicycle or moped on official travel, and if so, what should the rates be?

As directed, we consulted with the General Services Administration (GSA) and the Departments of Energy and Transportation. In addition, we had telephone discussions with officials in the Environmental Protection Agency (EPA), the U.S. Postal Service, and the Department of Defense (DOD). We contacted State officials in California, Ohio, and Kentucky, and officers, employees, and members of bicycle and moped associations and organizations. We obtained and analyzed reports, records, and documents; and attended several meetings such as the Pro Bike '80 Conference and the organizational meeting of the Ohio Bicycle Federation.

In these contacts our goals were to (1) identify and determine the status of bicycle programs; (2) identify the problems and barriers which are preventing greater use of bicycles as a transportation mode; and (3) obtain reports, records, and data on the costs of owning and operating a bicycle or moped.

Our overall purpose in these efforts was to determine why bicycles were not being used more as a means of commuting--a condition necessary before employees can be expected to use bicycles to any significant extent on official travel. A corollary purpose was to determine why bicycles were not in greater use at Federal facilities and installations.

The depth to which we could explore some of these facets was limited because the Senate committee asked for the report 3 months earlier than the House committee asked for it. We were also restricted in our efforts to determine a reimbursement rate for bicycles and mopeds by the absence of data and a lack of time for verifying the limited data obtained.

Because of the time frame, the report was not provided for official comment. However, at the conclusion of our study, copies of a draft of this report were provided to officials of the above six Federal agencies for review and comment for factual accuracy. All agencies responded to this request. In the preparation of the final report, their comments were considered and, where appropriate, incorporated directly into the applicable sections of the report to which they pertain.

CHAPTER 2

WHAT CAN BE DONE TO ENCOURAGE

BICYCLE/MOPED USE?

Opportunities exist for increasing bicycle/moped use in the Federal community and by those who visit its buildings and installations. Before these opportunities can be realized, however, certain barriers must be overcome and the Federal Government's role must be more clearly defined.

Past Government programs have been too narrowly focused and inadequately funded. Recent developments seem to indicate a recognition of the need for a comprehensive approach to increase bicycle/moped use. Major Federal departments, however, have demonstrated little organized effort to identify opportunities for bicycle/moped use or to promote such use.

BARRIERS DISCOURAGING BICYCLE/ MOPED USE MUST BE ADDRESSED

Numerous barriers are precluding more widespread bicycle/moped use and are removing these vehicles from consideration as an alternate transportation mode. Because the barriers apply to all would-be cyclists, they impact on future Federal bicycle use and are, therefore, discussed in this report. They are:

- Fears for personal safety.
- Lack of facilities.
- Unresolved legal issues.
- Attitudinal obstacles.

Fears for personal safety

Perhaps the largest single barrier to increasing non-recreational bicycle/moped use is the general public's fear of being involved in an accident with a motor vehicle. Although about 1,000 bicyclists are killed in collisions with motor vehicles each year, this rate has decreased substantially in the last 4 decades when related to bicycles in use. One notable researcher of bicycle accidents has observed that over the last 4 decades, the increase in bicycle

fatalities has been proportionately less than the increase in bicycles being used. 1/ For example, the fatality rate has dropped from a high of 13 per 100,000 bicycles in use in 1935 to 1 per 100,000 in 1976. More recently, National Safety Council 1979 pedacycle 2/ accident data indicates 1.02 deaths per 100,000 pedacycles in use.

The Council's data indicates that persons 15 years of age and older have accounted for about one-half the deaths during the 1970s as compared to one-fifth in 1960. Despite increasing adult-type bicycle sales in the 1970s, the percentage of pedacycle deaths in the various age groups has remained fairly constant according to the following National Safety Council data for the years 1972-79:

<u>Age Group</u>	<u>High</u>	<u>Low</u>
0 - 14	50% (1972)	40% (1979)
15 - 24	36% (1979)	27% (1972)
25 and over	24% (1979)	19% (1976)

During a recent conference, bicycle program planners pointed out several weaknesses in bicycle accident data. For example, little is known about why unsafe behaviors are performed or how often an accident victim rides. Further, non-motor-vehicle accidents, while often less serious, may account for 99 percent of all accidents, and very little is known about them. Consequently, determining the reasons for many bicycle accidents has proven a complex problem.

The research study previously cited isolated types of accidents, pinpointed where they are most likely to happen, and identified several contributing factors:

- A lack of hazard identification/assessment by the bicyclist was a heavy contributor to many accidents.
- Motorists were also at fault quite often; failure to properly scan for and detect the bicyclists or to properly estimate the bicyclists' speed and the distance needed to pass were contributing factors.

1/Dr. Kenneth D. Cross, Bicycle-Safety Education--Facts and Issues, Anacapa Sciences, Inc.

2/"Pedacycle" is an all-encompassing term for any pedal-powered cycle.

--Both motorists and bicyclists were guilty of unexpected turns--no warning of intentions.

--Bicyclists very often knew the law but chose to ignore it. Even the youthful bicyclists knew what stop/yield signs meant. Wrong-way riding (against traffic) was frequently involved and usually for convenience not ignorance of the law.

These factors point to a lack of proper education and training for cyclists and motorists. This was echoed by experts attending the DOT Rule 924 hearings. Most bicycle education and training has been directed at children and is often quite sporadic, ineffective, and outdated. Adults, though accounting to approximately 70 percent of the fatalities, rarely receive bicycle training. Even if such training were available, adult novices may consider childhood riding experience sufficient preparation. They fail to recognize any need for additional training to ride the more complex variable-speed bikes in heavy traffic. Motorists, too, receive limited training regarding the bicycle's place on the road.

Some very comprehensive bicycle education and training programs have recently been developed and initial efforts are underway to educate motorists to bicyclists' place on the road. Cyclist training consists of both classroom education and supervised on-bike training with the programs being tailored to child, novice, and more advanced adult cyclists' needs. Once so trained, cyclists overcome their fears enabling them to commute in heavy traffic with greater confidence.

The low level of enforcement of bicycle laws may encourage violators to go on breaking the rules of the road. Police historically have been reluctant to ticket cyclists, especially children. Wrong-way riding and failure to stop/yield the right-of-way or to signal turning intentions--all proven factors in serious bicycle accidents--have continued in the face of the low priority placed on the enforcement of bicycle laws.

Because mopeds are relatively new to the United States and many States do not classify moped accidents separately, incomplete moped fatality data exist. A DOT official, who also serves on the Transportation Research Board's Motorcycle/Moped Group, estimated 200 moped-related fatalities in 1979. For the same year, the National Highway Traffic Safety Administration (NHTSA) reported 100 fatalities, but acknowledged that the figure was not all-inclusive because some

States count mopeds with bicycles, others with motorcycles. A DOT study on mopeds found that 40 to 50 percent of all moped accidents happen in the 16 to 21 age group and that much like bicycles, moped accidents frequently happen at intersections and during turning actions.

Both DOT and the Moped Association of America have recognized a need for safety training. The Association has produced a pamphlet on moped safety that identifies hazards a moped rider should consider, including the lack of visibility to motorists, the need for defensive riding, and the need to use proper signals.

Lack of facilities

The lack of facilities--including bikeways, secure parking, and showers/lockers for the cyclist--has long been considered an obstacle to increased bicycle/moped use.

Bikeways available to commuters, particularly novice cyclists, may strongly influence whether or not they use their bicycles. Bikeways are categorized as follows:

- A bike path which is physically separated from motorized vehicular traffic by an open space or barriers and either within the highway right-of-way or within an independent right-of-way.
- A bike lane which is a portion of the roadway designated for the preferential or exclusive use by bicycles.
- A bike route which is roadway designated for bicycles by signs only.

The selection of the most effective bikeway has proven quite difficult. Early planners emphasized the more expensive, separate bike paths as the answer to the bicycle safety problem. While some applauded these efforts, experienced cyclists pointed out serious inherent flaws in this approach. Many of these separate facilities were poorly planned, designed, constructed, and/or maintained. Bikeway planning and design criteria have now been established which should alleviate many of the problems experienced with earlier bikeway development. Still, the question of when separate facilities are necessary remains the subject of extensive discussion among bicycle program planners.

While experienced cyclists may prefer to ride "tolerant" streets that have had bicycle hazards such as parallel drainage grates removed, novice cyclists feel safer on separate facilities. Bicycle program planners agree that the choice of bikeways should depend on full consideration of many factors, including the type of user, traffic volumes and speeds, street widths, physical barriers, adjacent land use, and parking/pedestrian interference.

If cyclists are to commute and use their bicycles for official business, they must be assured of secure parking. Such parking is not available in many areas. Stolen bicycles have a very low recovery rate while mopeds, with their heavier weight, locking devices, and in some instances State registration, do not experience as much theft.

Parking facilities are divided into three classes in the order of desirability:

- Class I: High-security, long-term bike lockers or attended covered parking which offers complete protection from vandalism and weather.
- Class II: Medium-security parking which secures both wheels and the frame with a simple user-supplied lock, but without the need for bulky cables or chains.
- Class III: Minimum-security "bike racks" or fixed object that holds a bike in conjunction with a user-supplied cable, chain, and lock.

Cyclists want parking facilities at both shopping and employment areas and at mass transit points so they may ride their bicycles/mopeds to catch buses, trains, and subways. Generally, the longer a bicycle/moped is to be parked, the greater the security needed. Cyclists have noted a large resistance by private parking garages to provide any bicycle parking facilities.

The Government has taken several actions to provide bicycle parking. For example, in November 1979, GSA issued regulations which require that

"Subject to the availability of satisfactory and secure space and facilities, agencies shall reserve areas for the parking of bicycles and other two-wheeled vehicles. Bicycles shall be given special consideration, including storage type space in"

"buildings and improved bicycle locking devices where practical and appropriate funds are available. * * * Two-wheeled vehicles are exempt from employee parking charges."

GSA has also provided bicycle parking guidelines to its building managers.

GSA could not provide us with overall information concerning the results of their parking regulation. However, limited information was available for GSA buildings in the Washington, D.C. area. GSA indicated that 40 lockers and 4,339 parking spaces at bike racks were available. Little is known, however, as to the quality and security of the racks or if they were installed before or after GSA's regulation was issued.

Recognizing the actions GSA has taken, cyclists take issue with GSA's across-the-board prohibition of allowing bicycles on elevators or parking them in offices of GSA buildings. They feel this should be examined on a case-by-case basis since additional, more secure parking would become available in some places without these restrictions. Cyclists point out that parking near their desks is not only the most secure parking but requires no additional cost.

The Washington Metropolitan Area Transit Authority (Metro) provides a good example of bike/mass transit interface. Lockers and/or racks have been provided at Metro subway stations. Each locker, costing \$550 delivered and installed, holds two bicycles and is relatively theft-proof. In a recent survey, 89 percent were rented at rates varying from \$30 for 3 months to \$70 for 12 months. Metro has long waiting lists for lockers at some stations and has plans to add 434 more lockers to the original 126 lockers installed. Racks, by contrast, are 62 percent utilized, and 45 bicycles have been reported stolen from them.

Experience thus far seems to call for careful consideration of the type of parking facility provided and where it is placed. Several options exist with security being first in the cyclists' view, while cost and available space usually are prime considerations of those responsible for providing the parking. This conflict is likely to continue and represents an obstacle to increased bicycle use.

Cyclists may also require certain additional facilities such as showers and lockers. These facilities are frequently requested by cyclists but seldom provided due to high costs and restricted space. GSA Public Building Service officials

advised us that separate facilities would have to be provided for males and females and estimated these facilities would require 5,000 square feet and cost about \$10,000 per building per year.

When showers/lockers have been provided, it has usually been due to cyclist action. The Bicycle Commuters of EPA in Washington, D.C., successfully obtained them, but it took a sustained effort on their part. Conversely, a petition by DOE personnel to use existing shower facilities in the Forrestal Building (downtown D.C.) was denied. Bicyclists in Dayton, Ohio, took a different approach, making special arrangements with the YMCA to use its shower facilities. A DOE official suggested that a user fee, membership fee, or a cost-sharing arrangement could possibly be used to cover the cost of establishing and maintaining shower and locker facilities.

Although the need for showers/lockers may be well recognized, it appears that progress in this area may be restricted to individual efforts, especially in the absence of a large bicycling population.

Unresolved legal issues

Certain legal issues must also be addressed. Both bicycles and mopeds have varying definitions, and regulations governing their use are often quite inconsistent between States. According to the National Committee on Uniform Traffic Laws and Ordinances, a bicycle is considered a vehicle in only about 12 States, although most States provide cyclists with all the rights and duties of motorists. Six States, however, have laws that do not give cyclists the rights of vehicle operators.

The moped is generally considered a vehicle, but its specific classification varies from one State to the next. Five States have no moped laws; the others treat them as bicycles, mini-bikes, motor scooters, or motorcycles. The most noticeable effect of the mixed classifications was the lack of moped-specific accident data. (See p. 7.) As moped use increases in the United States, more definitive classification and treatment will be required.

The issue of whether or not a bicycle is a vehicle and the rights and responsibilities of cyclists is also a matter of concern to bicycle program experts. On this regulatory issue, the National Committee on Uniform Traffic Laws and Ordinances is responsible for the Uniform Vehicle Code (UVC). This code recognized the bicycle as a vehicle in 1975 and

contains several provisions dealing specifically with bicycles. Every State but one has adopted the UVC at some time in the past. The problem is that only about 12 States have adopted recent UVC changes, and several of these changes directly affect bicycles. In the extreme case, one State has not changed from the first UVC developed in 1926.

The bicycle program experts we spoke with generally favored adoption of the most recent UVC bicycle provisions, with the exception of a provision making the use of separate bike paths mandatory. They are working to have this provision deleted because some of the paths are more dangerous than the streets. They felt the following UVC bicycle provisions are badly needed, however, to compensate for weaknesses or omissions in State laws:

--Where the cyclist must ride--Many States require cyclists to ride as close to the right as practicable. The UVC has adopted California's law in this area, which specifically defines the conditions under which a cyclist is permitted to move away from the curb.

--Off-roadway status of the cyclist--In most States bicycles have the rights and duties of a vehicle only when on the roadway. Off roadway, on the sidewalk, for example, cyclists may be in a statutory vacuum. They may be required to yield to pedestrians, but they do not enjoy the protection of being a pedestrian. The UVC provides that a cyclist on a sidewalk or crosswalk has all the rights and duties of a pedestrian.

--Turns and turn signals--Most States still require a continuous turn signal for 100 feet before a turn, despite the fact that the bicyclists may need to have their hands on the brakes at the same time the signal is required. The UVC amends turn signal requirements to allow for control and operation of the bicycle.

A January 1977 Traffic Quarterly article discusses the need for more consistent, comprehensive legislation. Court decisions in bicycle cases have ruled that a bicycle is and is not a vehicle and that motorists can and cannot expect bicyclists to exercise the same standard of care as the driver of a vehicle. The latter point is particularly important regarding minors. The article discusses the option of having different rules for various age groups.

According to the Moped Association of America, moped laws between States vary from no laws in five States to laws with different specifics in the remaining ones. For example, minimum age requirements for moped operation range from no age specified to 16 years of age, with nearly half using the latter figure. Many States require either a driver's license, special license, or a learner's permit of some sort; seven States require no license, and two of these have no minimum age level for the operators. Registration requirements, fees, and insurance requirements also vary. Only four States require moped riders to wear helmets.

If bicycle/moped use is to be increased and encouraged, issues that seem to demand additional attention are the legal definition and the rights and duties of these vehicles and their operators. Although much work has been done in the area, State laws have rarely kept pace or even considered needed changes. Bicycle activists are working toward the changes they feel are most needed, but their numbers are relatively small and State legislatures seem rather reluctant to make changes.

Attitudinal obstacles

Perhaps less obvious than the physical barriers preventing increased bicycle/moped use is the low public awareness and/or acceptance of these vehicles as an alternate transportation mode. Bicycles are often still considered a toy or a recreational vehicle. The public's initial "fun machine" image of the moped may have removed it from utilitarian consideration. This attitude is beginning to change according to the Moped Association of America. Encouragement of the utilitarian use of both vehicles is important in removing the attitudinal obstacle. The following section deals with the Federal Government's role in addressing this and previously discussed barriers and the need for additional governmental action to encourage increased bicycle/moped use.

MORE COMPREHENSIVE, COORDINATED GOVERNMENTAL ATTENTION NEEDED

Past government programs, though intended to encourage bicycle use, have been too narrowly focused on bikeway construction, and relatively little funding has gone for this activity. Recent developments, motivated in large part by the April 1980 DOT study, seem to indicate Government recognition of the need for a comprehensive approach to increase safe bicycle use by the general public. Within the Government itself, there is little organized attempt to identify opportunities for bicycle/moped use or to promote such use.

Past governmental programs

Early bicycle programs were directed primarily toward recreational use. The largest bicycle funding source from 1969 to 1975 was the Land and Water Conservation Fund Act of 1965 (Public Law 88-578), which still provides some bicycle-related funding. About 716 projects that include bike trails have been funded through this act, which is administered by the Department of the Interior's Heritage Conservation and Recreation Service. Total project costs have reached approximately \$136.5 million, but the amount spent on bike trails alone cannot be isolated because many of the projects are comprehensive total park projects. Grants for bike trails have ranged from \$750 to \$425,000. Although the park environment usually connotes recreational usage, the location of some trails may also allow them to be used for non-recreational purposes.

Federal Aid Highway Programs have been the other major source of bicycle funding. Originally, the Federal-Aid Highway Act of 1973 (Public Law 93-87) allowed up to \$2 million per State per fiscal year, with a national limit of \$40 million, to be spent on independent pedestrian facilities and bikeways. Later amendments raised these limits to \$2.5 million per State, with a national limit of \$45 million.

Initially thought to be the solution to bicyclists' needs, the actual usage of highway funding has been low. Although allowed to spend funds for pedestrian/bikeway facilities, State governments have generally not used this option. Because of scarce highway funds and escalating highway construction costs, the States have chosen to fund highway projects. For example, through August 1980 only \$20.3 million of the \$300 million authorized was used for funding independent pedestrian/bikeway facilities.

The Federal Highway Administration (FHWA) has no way of determining how much of the above funding was specifically for bikeways as opposed to pedestrian facilities. Many of these projects are used by both pedestrians and cyclists, thus making this distinction even more difficult.

The Federal-Aid Highway Admendments of 1974 (Public Law 93-643) authorized \$10 million for fiscal year 1976 to be spent specifically on a bikeway demonstration program. Authorized projects were to provide a safe bicycling environment in urban areas, with 80 percent of the funding to be provided by the Federal Government. State and local governments submitted 495 project applications, involving nearly 4,000

miles of bike paths and associated facilities with estimated total costs of over \$141 million. Of the \$10 million authorized, only \$6 million was appropriated and used to fund 41 projects in 31 States.

Most of the approved projects were various types of bike-ways or improvements to them. A few involved secure bicycle storage facilities at transit transfer locations, provisions for carrying bicycles on regularly scheduled buses, and the use of vans with bike trailers to transport bicycle commuters across barriers such as long bridges.

Little comprehensive evaluation of these projects has been done, although the Federal Highway Administration provided us with draft copies of case studies they had done on each of the bikeway demonstration program projects. These case studies reflect many of the bikeway problems pointed out by experienced cyclists such as poor planning, design, and construction. Although some projects were successful, the need for more comprehensive planning and evaluation was evident.

The latest source of bicycle-specific funding was provided by the Surface Transportation Assistance Act of 1978 (Public Law 95-599). This legislation authorizes \$20 million for each of 4 fiscal years beginning in 1979. Federal/State funding is a 75 to 25 ratio. For the first time, funding was also allowed for non-construction projects which would enhance the safety and use of bicycles. This was considered a welcome development in the bicycle community.

Of the \$80 million authorized, no funds were appropriated for fiscal year 1979, and only \$4 million was appropriated for fiscal year 1980. Despite short notice of funding availability and some time and dollar restrictions, 558 projects were submitted asking for \$38.6 million in Federal funds. The \$4 million was equally divided between the 10 Federal regions, and 151 projects were funded under the following categories:

<u>Type of project</u>	<u>Number of projects</u>	<u>Federal funds provided</u>	<u>Federal funds by category</u>
Construction	101	\$3,115,148	77.9%
Non-construction	39	602,657	15.1%
Combined	11	267,956	6.7%
Unknown	<u>(a)</u>	<u>14,239</u>	<u>.3%</u>
Total	<u>151</u>	<u>\$4,000,000</u>	<u>100.0%</u>

a/Represents cost of approved changes where amounts transferred between categories could not be determined.

DOT appears to favor expanding the use of Federal Aid Highway funds for bicycle projects instead of the single-purpose grants that restrict the State's options. Bicyclists point out, however, that in the absence of single purpose grants, States rarely opt to spend highway funds for bicycle projects.

Current governmental efforts

Although certain governmental agencies have begun to incorporate bicycle/moped programs into their planning processes, others have largely ignored bicycle/moped potential--particularly at the departmental level. Much of the recent governmental bicycle-related activity has been in response to the DOT April 1980 study "Bicycle Transportation for Energy Conservation." This study, required by the National Energy Conservation Policy Act of 1978, sets forth and discusses:

- Major obstacles to widespread bicycle use.
- Elements of a comprehensive bicycle transportation program.
- Target goals for increased bicycle use.
- Estimates of energy savings potential through bicycle use.
- Recommended roles for implementing a comprehensive bicycle transportation program.

The study recommends that DOT should take the lead role in this effort, coordinating its actions with the Departments of Energy, Defense, the Interior; and with GSA and EPA. It

also asks all Federal agencies to encourage their employees to use bicycle transportation. Three of DOT's administrations--the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Urban Mass Transportation Administration (UMTA)--have developed implementation plans that outline how they plan to achieve what the DOT study deems necessary.

An FHWA administrator stated that their plan represents a broad commitment to enhance and promote safe bicycle transportation. A November 1, 1980, article in the American Wheelmen noted that the plan "* * * goes far toward integrating the bicycle into the nation's highway-related transportation activities." The plan addresses engineering aspects such as eliminating surface and design hazards, as well as encouragement measures such as public information and awareness.

NHTSA's implementation plan deals primarily with safety education, training, and enforcement--all issues of prime concern at the Pro Bike '80 Conference. NHTSA intends to use programs being developed by private industry for some of its projects. NHTSA's plan notes that funding will determine the extent of many of the planned projects.

UMTA's plan places emphasis on promoting bicycle use in conjunction with mass transit, primarily through provision of bicycle parking at mass transit stations. The major actions in this area will be to describe the bicycle's role and advocate increased parking facilities to UMTA's regions when planning major new facilities.

EPA has also shown interest in the bicycle and its potential to reduce air pollution. To assist areas without bicycle program experience, EPA sponsored an extensive report, "Bicycling and Air Quality Information Document" (Sept. 1979). It provides information on the potential role of bicycle strategies in reducing air pollution.

EPA headquarters in Washington, D.C., has an active contingent of bicycle commuters that have successfully obtained secure parking, shower, and locker facilities. Additionally, EPA has established bicycle coordinators in each of its regions. When dealing with other governmental departments, however, we found this type of involvement the exception, not the rule. In this connection, we found no department-level activities that encouraged employee use of bicycles at DOE, DOD, the Department of the Interior, or the United States Postal Service. Although individual locations within these

departments may have demonstrated bicycle/moped advantages, no central policy and little dissemination of these benefits have been provided.

A DOE official told us that bicycles are being used at several of their facilities. The Energy Insider, a DOE newsletter, mentioned a DOE lab using 900 bicycles, but DOE had no across-the-board policy to search for other similar bicycle use opportunities.

DOE's Federal Energy Management Program (FEMP) has not considered bicycles, nor does it plan to in the future. FEMP is responsible for achieving a coordinated governmental energy policy that promotes maximum energy conservation throughout the Federal sector. One of FEMP's major areas of responsibility is governmental transportation energy use, accounting for about 50 percent of the government's energy consumption. A FEMP official told us nonetheless that the magnitude of energy use and savings that FEMP addresses is much greater than bicycles could provide.

Another DOE official involved with transportation programs said higher priority work had precluded any DOE bicycle work, although DOE had reviewed DOT's report on potential fuel savings from increased bicycle use. A DOE official in the education division informed us, however, that DOE is cooperating with the Consumer Product Safety Commission, DOT, and EPA to set up a coordinating network for information exchange among bicycle program specialists. As a first step, DOE has awarded a contract to identify existing Government activities associated with bicycle programs.

Neither DOD nor any of the individual service branches has a bicycle/moped policy. DOD has mandated goals for decreased fuel use, but has provided little guidance on how bicycles and mopeds could be used to help achieve these goals. We found evidence, however, that some military bases were using bicycles/mopeds. Ft. Knox Army Base in Kentucky had purchased 22 mopeds and 30 bicycles to decrease fuel usage and wanted to order 33 more mopeds. The officer running this program did not know if other U.S. Army bases had used bicycles/mopeds, but he had received calls from other bases asking about the Ft. Knox program. Since it was only a year old and had little detailed record keeping, no precise program savings data were available.

The Department of the Interior's National Park Service has used some bicycles and mopeds and mentioned this use in its 1979 Energy Conservation Report to DOE. Interior made no evaluation of its bicycle/moped use, however, and had no department-wide program. The Department does try to encourage its bureaus to use the most energy-efficient methods of transportation.

Postal Service Headquarters advised us that it had established regional goals for demotorizing routes and that each region was responsible for determining the best methods of achieving these goals. Headquarters officials cited the Phoenix, Arizona, Post Office as one which has used bicycles extensively. But the Postal Service Headquarters has not promoted the use of bicycles and mopeds. In fact, it recently advised against any expanded use of bicycles due to concerns about safety, inadequate riding skills, and the need for training and vehicle inspection programs.

Phoenix Post Office officials indicated they were currently using 100 bicycles to cover 10 percent of the area's 1,250 mail routes. Phoenix has used bicycles since 1949, are pleased with the results, and have asked to purchase 165 more bicycles. The Phoenix Post Office has received calls from post office people around the country asking for information on the bicycle mail routes, especially since the Postal Service's emphasis on demotorization of routes has begun.

CONCLUSIONS

Opportunities exist to increase bicycle/moped use by those working in or visiting Federal buildings and installations. The extent to which these opportunities are realized, however, will depend on

- the degree to which barriers both physical and attitudinal are overcome and
- the approach, support, and attitude within the Federal agencies dealing with bicycle-related activities, as well as the example set by major governmental departments in using bicycles and mopeds.

Among the barriers to be overcome are fears for personal safety, lack of facilities, unresolved legal issues, and attitudinal obstacles. A comprehensive approach is needed to properly deal with these barriers.

Major governmental departments have done little to encourage increased bicycle/moped use by their employees. These departments have not evaluated isolated examples of successful bicycle/moped use within their departments, nor have they explored for comparable opportunities or even disseminated information on successful programs. Such action is essential to the promotion of governmental bicycle/moped use, but has seldom been demonstrated. We believe opportunities for expanded governmental bicycle/moped use exist at many military bases, other Federal installations and activities, and at bicycle/moped-tolerant national parks.

If increased bicycle/moped usage is to be achieved, the Federal Government should focus its attention on diminishing or eliminating existing barriers and encouraging increased use of these modes of transportation. In this endeavor the Federal Government should utilize the lessons learned from past actions, the emerging information from current governmental endeavors, private-sector cycle groups, and the expertise of selected bicycle program experts such as those who attended the Pro Bike '80 Conference.

RECOMMENDATION TO THE
SECRETARY OF TRANSPORTATION

The DOT study provides the framework around which a comprehensive program could be developed to encourage increased use of bicycles and mopeds. We agree with the study's recommendation that DOT should take the lead role in this effort and that it should closely coordinate its work with DOE, DOD, GSA, EPA, the Department of the Interior, and other Federal agencies.

We recommend that, as part of this effort, DOT give specific attention to two major barriers--lack of secure parking and shower facilities--which appear to be precluding widespread use of these vehicles by Federal employees.

CHAPTER 3

SHOULD FEDERAL EMPLOYEES BE REIMBURSED

FOR USING BICYCLES/MOPEDS ON OFFICIAL TRAVEL?

Federal employees should be reimbursed for official travel by bicycle. Contrary to a position taken by GSA, there are some definite, definable costs associated with owning and operating a bicycle. In fact, the costs incurred in bicycling are quite similar to the costs of owning and operating an automobile or motorcycle--costs which are used by GSA to establish reimbursement rates for these vehicles. Provisions should also be made to reimburse employees using privately owned mopeds for official travel.

Reimbursement for official travel by bicycle or moped is justified not only from the standpoint that costs are incurred but also because this reimbursement would be consistent with Federal Government efforts to foster and encourage programs to conserve energy, protect the environment, and reduce operating costs. The Congress recognized the potential benefits of bicycle travel in Section 682 of the National Energy Conservation Policy Act (NECPA) of 1978 (Public Law 95-619) which states:

"The Congress recognizes that bicycles are the most efficient means of transportation, represent a viable commuting alternative to many people, offer mobility at speeds as fast as that of cars in urban areas, provide health benefit through daily exercise, reduce noise and air pollution, are relatively inexpensive, and deserve consideration in a comprehensive national energy plan."

WHAT OPPOSITION EXISTS TO REIMBURSEMENT FOR BICYCLE USE?

GSA is not in favor of the proposal to reimburse Federal employees using their privately owned bicycles on official business. GSA's opposition is based on the following:

1. The applicable law (5 USC 5704) and the implementing regulations pertain only to motor driven vehicles.
2. There are no costs for gasoline and oil and the costs of depreciation, maintenance, and repairs which GSA

is required to consider pursuant to 5 U.S.C. 5707 would be negligible for bicycles.

3. The amount of travel by bicycle would be infinitesimal due to distance and physical limitations.
4. This mode of transportation would not be cost effective when employee salaries and time in transit are considered.

GSA does recognize the emphasis being placed on programs to promote travel savings, energy conservation, and personal health and, therefore, is receptive to the establishment of a "symbolic" rate. It objected strenuously in testimony, however, to the proposal that it conduct cost investigations on the use of bicycles, contending that: "These investigations would put an administrative burden on GSA with no foreseeable benefit to GSA, the employee, or the Government as a whole."

Officials of GSA's Federal Travel Management Division told us that the cost data on owning and operating bicycles and mopeds are not adequate for conclusively establishing reimbursement rates. It was their view that if reimbursement rates are established, GSA should be given up to 10 years for developing the data bases and performing the cost studies required by 5 U.S.C. 5707 (b)(2). They suggested that in the interim, bicycle and moped rates could be adjusted proportionately to changes in other mileage rates.

GSA cited Comptroller General Decision B-184641, September 11, 1975, as support for the position that the law and implementing regulations for mileage reimbursements pertain only to motor vehicles. The Comptroller General's decision held that no statutory authorization exists for payment of a mileage allowance for travel by a bicycle in that such rates are only authorized for motorcycles, automobiles, and airplanes. The decision does not, however, preclude reimbursement for actual expenses incurred in the use of a bicycle. Statutory authority exists for such reimbursement (5 U.S.C. 5706), and there are regulations controlling what types of actual expenses are reimburseable.

The cost data presented in succeeding sections of this chapter contradict GSA's contention that negligible costs are associated with owning and operating a bicycle and that there is no basis for reimbursement. Other than gasoline and oil, many of the costs considered by GSA in establishing mileage allowances for automobiles, motorcycles, and airplanes are incurred by cyclists.

Bicycling proponents disagree with GSA's views that bicycle travel would be limited by distance and physical limitations, and that it would not be cost effective. In this regard, studies done by both EPA and DOT are supportive of the proponents' position.

The EPA study points out that in addition to conserving energy and protecting the environment, bicycle riders can save time in situations such as congested downtown areas, where bicycle travel is faster than car travel. The study also points out that the physical environment that bicyclists face in the United States is not that much different than the physical environment that cyclists face in Europe, where a much greater percentage of travel is done by bicycle. The DOT study, in discussing the physical environment, states that while there has been a great deal of speculation on the effects of the physical environment on bicycle use, there is very little substantiation.

In conclusion, we believe GSA's contention that the program has no foreseeable benefits to GSA, the employee, or the Government is questionable. With regard to cost effectiveness, managers, as in authorizing other modes of travel, would have to consider the cost effectiveness of individual circumstances.

WHAT SHOULD THE REIMBURSEMENT RATES BE?

The cost of owning and operating a bicycle, based on data provided by several sources and on rates currently being paid by several government bodies, falls between 3 and 5 cents per mile. The 4-cents-per-mile proposal introduced in the 96th Congress (H.R. 6180) would, therefore, be a reasonable rate for reimbursing Federal employees using their bicycles on official travel.

The cost of owning and operating a moped, based on data provided by the Moped Association of America, ranges from 8.2 to 16.3 cents per mile. A local government reimburses its employees 8 cents per mile for using mopeds. This seems to be a reasonable rate for reimbursing Federal employees until additional cost data is obtained.

The cost per mile computations for bicycles and mopeds vary due to the assumptions made, the computation methods used, and the various costs assigned. Nevertheless, the cost categories included in these computations are very similar to the cost categories which GSA is required to use in computing

the reimbursement rate for privately owned automobiles and motorcycles. GSA's cost categories for autos are specified in 5 U.S.C. 5707 (b)(1) and include

- depreciation of original vehicle cost;
- gasoline and oil;
- maintenance, accessories, parts, and tires;
- insurance; and
- State and Federal taxes.

Bicycles

We obtained computations on the cost of owning and operating a bicycle from four sources. None of the computations are comparable in terms of the methods used nor in the assumptions made. One is quite detailed and one is very brief, and the other two, in between. We were not able to determine which, if any, was better than the others. All are presented, as tables 1 through 4, to demonstrate that there are some definite, definable costs associated with cycling and to establish the reasonableness of the proposed reimbursement rate of 4 cents per mile.

TABLE 1

BICYCLE COST PER MILE COMPUTATION

BASED ON ACTUAL COSTS FOR 50,000 MILES

<u>Item</u>	<u>Cost</u>	<u>Life (in miles)</u>	<u>Cost per mile (in cents)</u>
Bicycle	\$450.00	50,000	0.900
Tires	17.00	4,000	0.425
Tubes	6.00	15,000	0.040
Patches	.30	1,000	0.030
Chain & freewheel cogs (2)	9.00	5,000	0.180
Brake & derailier cables	10.00	15,000	0.067
Rims & spokes	57.00	25,000	0.228
Brake shoes	12.00	12,000	0.100
Toe clips & straps	7.00	15,000	0.047
Pedals	15.00	15,000	0.100
Headset	24.00	25,000	0.096
Handlebar tape	2.00	5,000	0.040
Bottom bracket spindle	28.00	25,000	0.112
Freewheel body	10.00	15,000	0.067
Hub overhaul	18.00	20,000	0.090
Saddle covers	1.50	2,000	0.075
Handlebar bag	20.00	25,000	0.080
Lights & batteries	10.00	7,500	0.133
Chain rings	12.00	18,000	0.067
Misc.	50.00	50,000	0.100
Cost per mile			<u>2.977</u>

Note: Not included are cost for safety equipment and clothing, oil and grease, tools, and lock and chain. Costs shown are for 50,000 miles of commuting at the rate of 7,000 miles per year.

Source: Records of Mr. William Bliss of San Jose, California. Provided by Mr. Ralph Hirsch, National Legislative Director, League of American Wheelmen (LAW).

TABLE 2
BICYCLE COST PER MILE COMPUTATION BASED
ON ACTUAL COSTS FOR 22,000 MILES

Purchase price of bicycle at August 1, 1973	\$150.00	
Accessories	<u>237.00</u>	
Capitalized cost	<u>387.00</u>	
Estimated value at December 31, 1978	(100.00)	
Depreciation cost	<u>\$287.00</u>	
Depreciation cost per mile (\$287 divided by 22,000 miles)		1.305 cents
Operating costs (8/1/73-12/31/78)		
Tires	76.85	
Sprockets, chainwheels, freewheel	40.62	
Chains	37.71	
Crankset	19.75	
Rims and spokes	23.97	
Brake and associated parts	37.98	
Bearings and lubricant	30.24	
Accessories	26.77	
Handlebar tape	15.90	
Miscellaneous (tubes, patches, tape, etc.)	<u>64.57</u>	
Total operating costs	<u>\$374.36</u>	
Operating cost per mile (\$374.36 divided by 22,000 miles)		<u>1.702</u>
Cost per mile		<u>3.007 cents</u>

Note: Based on records kept for 5-1/2 years and 22,000 miles of cycling. Costs do not include special clothing such as gloves, shoes, helmet, and special tools.

Source: Information submitted to Senator William Proxmire by Fr. Jerome Schaad, S.C.J. Provided by Mr. Ralph Hirsch, National Legislative Director, LAW.

TABLE 3

BICYCLE COST PER MILE COMPUTATION BASED
ON ESTIMATED COSTS FOR 25,000 MILES

Purchase price of bicycle (note a)	\$250
Equipment and accessories	200
Repairs	100
Tires (20 tires at \$10.75 each) (note b)	<u>215</u>
Total cost	<u>\$765</u>
Cost per mile (765 divided by 25,000)	3.06 cents

a/Estimated cost of a 10-speed bicycle with a life expectancy of 25,000 miles.

b/Based on estimate that front tires last 4,000 miles and rear tires only 2,000.

Source: Mr. Ed Honton, County Engineer, Columbus, Ohio.
Based on his experience commuting 18 miles per day.

TABLE 4

BICYCLE COST PER MILE COMPUTATION BASED ON
ACTUAL AND ESTIMATED COSTS FOR 1,000 MILES PER YEAR

Depreciation costs		
Purchase price of bicycle	\$150.00	
Re-sale value	<u>(30.00)</u>	
Total depreciation	<u>120.00</u>	
Depreciation costs per year (120 divided by 10)		\$12.00
Repair and maintenance (annualized)		
Tires	5.00	
Materials, lubricants, etc.	.75	
Brakes and cables	.70	
Labor	<u>8.05</u>	
Repair and maintenance cost per year		14.50
Fuel (1,000 miles at 45 K cal./mile at \$.0005/K cal.) a/		<u>22.50</u>
Total annual costs		<u>\$49.00</u>
Cost per mile (\$49 divided by 1,000)		4.90 cents

a/Based on U.S. Government brochure entitled "Weight and Exercise," which states that cycling at 6.6 miles per hour consumes 300 K cal. per hour.

Note: Calculations are based on a cyclist using his/her bicycle 9 months a year (39 weeks), 25 miles per week.

Source: Letter to Secretary of Transportation from Paul D. Alman, Ann Arbor, Michigan. Provided by Maureen Craig, Program Coordinator, DOT.

The California State Board of Control, the City of Palo Alto, California, and the Township of West Windsor, New Jersey, are three government bodies which have authorized reimbursement for employees using their bicycles on official travel. The rates authorized are 4 cents per mile (1.6 kilometers) in California and 5 cents per mile in the New Jersey township.

Mopeds

Table 5 contains three estimates on the cost of owning and operating a moped. These estimates were provided by the Moped Association of America. Depending on the assumptions, the estimates indicate that the cost per mile of owning and operating a moped can range from 8.2 to 16.3 cents. We did not perform a detailed examination to determine the reasonableness of these estimates. However, the Township of West Windsor, New Jersey has established an 8 cents per mile rate for reimbursing employees using mopeds.

TABLE 5

MOPED COST PER MILE COMPUTATIONS BASED

ON ESTIMATED ANNUAL EXPENSES */

<u>Expense item</u>	<u>Cost</u> (low estimate)	<u>Basis/Rationale</u>	<u>Cost</u> (medium estimate)	<u>Basis/Rationale</u>	<u>Cost</u> (high estimate)	<u>Basis/Rationale</u>
Moped purchase price	\$650	-	\$650	-	a/\$750	-
Depreciation	\$100	6-1/2 year life	\$130	5 year life	\$150	5 year life
Maintenance	26	\$.50 per week	36	\$.10 per day	52	\$1 per week
Registration	3	Average when including all States	6	Average for States requiring registration	9	Projected cost when considering trend toward registration
Security accessories	5	Costs of \$30 depreciated over 6-1/2 years	6	Cost of \$30 depreciated over 5 years	7	Cost of \$35 depreciated over 5 years
Gasoline at \$1.25 per gallon	34	3,650 miles (10 miles per day at 135 miles per gallon)	53	4,280 miles (12 miles per day at 100 miles per gallon)	61	\$53 plus 15 percent for inflationary cost
Oil	2	2-1/2 ounces per gallon	3	2-1/2 ounces per gallon of gas	4	2-1/2 ounces per gallon of gas
Minimum liability insurance	30	Small cities	70	Average sized cities	100	Large cities
Parking	65	\$.25 per work day	130	\$.50 per work day	260	\$1 per work day
Optional needed accessories (note b)	35	Accessories costing \$100 depreciated over 3 years	45	Accessories costing \$135 depreciated over 3 years	55	Accessories costing \$165 depreciated over 3 years
Estimated yearly cost	<u>\$300</u>		<u>\$479</u>		<u>\$698</u>	
Cost per mile	c/8.2 cents		d/11.2 cents		d/16.3 cents	

*/See following page for references.

TABLE 5 (notes)

a/Purchase price of \$650 adjusted for inflation.

b/Costs for optional needed accessories

Car carrier	\$ 30
Directionals	40
Helmets	45
Baskets	15
Visibility	10
Eye Protection	15
Other	<u>10</u>

Total \$165

c/Based on 3,650 miles per year.

d/Based on 4,280 miles per year.

Source: Moped Association of America, Washington, D.C.

WHAT IS THE GOVERNMENT'S
LIABILITY WHEN EMPLOYEES
USE BICYCLES AND MOPEDS?

If Federal employees are reimbursed for using bicycles or mopeds for official business, questions arise as to the Government's liability if the employee is involved in an accident that causes property damage or personal injury. The basis for determining the consequences of allowing the payment of a mileage allowance for the use of bicycles and other two-wheeled vehicles by Federal employees is aided by examining the consequences of the use of those types of vehicles for which a mileage allowance is already allowed--motorcycles, aircraft, and automobiles.

The Federal Torts Claim Act provides a remedy for third parties who have been damaged by the negligent or wrongful act or omission of any Federal employee acting within the scope of employment. When a Federal employee acting in the scope of employment injures a person or damages property due to the negligent driving of a Government or privately owned automobile, the Government assumes liability. Generally, an employee is within the scope of employment when performing specific duties assigned to him, such as traveling on official business. The Federal Torts Claim Act does not distinguish between an employee's use of an automobile or a bicycle/moped as a means of transportation. Any accidents that occur when a Federal employee is using a bicycle or other two-wheeled vehicle instead of an automobile may result in liability of the Government for damages caused by the employee's negligence or wrongful conduct.

A Federal employee injured in the performance of duty is entitled to compensation benefits under the Federal Employees Compensation Act. This would include injuries occurring while riding a Government or privately owned bicycle or other two-wheeled vehicle in the performance of duty. Such benefits are the exclusive remedy available to Federal employees injured in the course of employment.

CONCLUSIONS

We believe provisions should be made to reimburse Federal employees for official travel by privately owned bicycle or moped. We believe this action would be justified from several points of view which, when taken together, far outweigh the reasoning advanced for excluding these vehicles as authorized modes of travel. For instance, our study showed there are

definite, definable costs associated with owning and operating a bicycle or moped just as there are for the privately owned vehicles now included. Moreover, the cost data we obtained demonstrates that the costs of owning and operating a bicycle or moped are quite similar to the costs considered in the establishment of a reimbursement rate for automobiles, motorcycles, and airplanes.

Establishing reimbursement rates can also be justified for other reasons. One is that the failure to include bicycles and mopeds as authorized modes of travel can be viewed as totally at odds with on-going Federal efforts to conserve energy, protect the environment, promote personal health and reduce government operating costs. The potential of bicycles to contribute to these programs was also recognized by the Congress in Section 682 of NECPA.

We believe recognition of the bicycle and moped as authorized modes of travel for Federal employees on official business is a necessary step in efforts to increase the use of these vehicles by those working at and visiting Federal buildings, facilities, and installations. In other words, the Federal government should set an example.

RECOMMENDATION TO THE CONGRESS

We recommend that the Congress amend Sections 5704 (a) and 5707 (b)(2) of Title 5 of the United States Code to provide for an allowance of 4 cents a mile to Federal employees using their privately owned bicycles while on official business. An 8 cents per mile allowance should also be provided for the use of privately owned mopeds. Language similar to that contained in H.R. 6180 (see app. II) could be used.

These allowances would establish the principle of reimbursement for those using their privately owned bicycles and mopeds for official business. Given the limited cost data, the recommended rates of reimbursement are at the low to mid range of the data available and are consistent with existing precedents set by State and local government entities.

Over time, as more cost experience is gained, GSA should be able to validate and refine cost rates and recommend to the Congress appropriate adjustments to the maximum rates.

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NINETY-SIXTH CONGRESS
Congress of the United States
House of Representatives
 GOVERNMENT ACTIVITIES AND TRANSPORTATION
 SUBCOMMITTEE
 OF THE
 COMMITTEE ON GOVERNMENT OPERATIONS
 RAYBURN HOUSE OFFICE BUILDING, ROOM B-350-A-B
 WASHINGTON, D.C. 20515

June 11, 1980

Honorable Elmer B. Staats
 Comptroller General
 General Accounting Office
 441 G Street N. W.
 Washington, D.C. 20548

Dear Mr. Staats:

Particularly since energy conservation became a top national priority, encouragement of the use of bicycles and other two-wheeled vehicles has received increasing private and government attention.

One of this committee's concerns is economical and efficient utilization and operation of Federal buildings, facilities, and installations. The benefits of bicycle riding are such that the Federal government as owner or lessee of hundreds of properties should increase activities that encourage the use of two-wheeled vehicles by those who work in or visit such properties. Some steps have already been taken. GSA, for instance, has issued a Temporary Federal Property Management Regulation (44 F.R. 53161-3; September 13, 1979) that deals, in part, with two-wheeled vehicles. It states that bicycles shall be given special consideration. It exempts two-wheeled vehicles from employee parking charges.

Congressional interest in this issue is widespread. For instance, a bill before this committee (H.R. 6180) proposes that Federal employees using their bicycles on official business shall be allowed reimbursement of four cents a mile.

This committee recently considered H.R. 7072, to increase the maximum allowances for Government employees on official travel, which passed the House June 9. In its report (H. Rept. 96-1021), the committee took cognizance of opportunities for energy and dollar savings that greater use of bicycles can offer. However, we do not yet have data on costs and other factors (such as the extent to which employees on bicycles spend more time in transit) that need to be considered with respect to using bicycles for official travel.

(more)


-2-

Also, we have insufficient information on how to encourage greater use of bicycles by employees and others at Federal facilities, apart from official travel.

The committee's report has requested that GAO undertake a project to gather and analyze relevant information on bicycle use in relation to Federal facilities. Specifically, it requests investigation and evaluation of all feasible means, procedures, and benefits that could encourage and advance use of bicycles, and other two-wheeled vehicles, by those using Federal buildings, facilities and installations. Your report should include (but not be limited to) an assessment of the proposal to reimburse bicyclists on official travel at the rate of four cents per mile. In this project, GAO should consult with GSA, and the Departments of Energy and Transportation. The committee asks that a report be submitted to it by March 31, 1981.

We are enclosing a copy of the committee report. The committee's request appears on pages 4 and 5. If there are questions or comments concerning the request, please get in touch with the subcommittee office (Mr. Romney or Ms. Kelley, 225-7920).

Sincerely,



JOHN L. BURTON
Chairman

JLB:cm
Enclosure

Subsistence allowances

When the present per diem allowances were established, the rates were adequate to cover reasonable expenses that might be incurred during government travel. However, in the last five years the average cost of food and lodging has increased substantially, and these rates are now inadequate to reimburse fully an employee for travel expenses.

The General Services Administration completed a study of the cost of official travel in March 1979, which showed that the current \$35 per diem is inadequate in 101 cities, and travel to those areas accounted for three-fourths of all Federal travel. Moreover, GSA has found that the \$50 maximum actual expense allowance is inadequate for over 30 of the 101 current high-rate areas. Therefore, they concluded, many Federal employees are not receiving sufficient reimbursement when they travel while on business.

H.R. 7072 rectifies this situation by increasing the maximum basic statutory per diem allowance from \$35 to \$50 per day, and the maximum statutory actual subsistence expense allowance for travel to high cost areas from \$50 to \$75 per day.

The per diem rate for each locality outside the continental United States is to be established by the President, or his designee. In a case where the per diem rate is less than actual and necessary expenses, the President, or his designee, may prescribe reimbursement not to exceed \$33 for each day in addition to the locality per diem rate.

The Administrator of General Services, by issuing regulations, establishes the actual per diem reimbursement rates, based on periodic studies. At the present time, the GSA expects that a \$47 per diem rate would be adopted for travel to areas other than high cost areas within the continental United States. The maximum reimbursement rates will vary among high cost cities and for travel to localities outside the continental United States but in no case will those allowances exceed the statutory limits of \$75 and \$33 respectively.

Mileage allowances

The tremendous increase in transportation costs has rendered inadequate current mileage reimbursement rates for privately owned vehicles used while on Government business.

The General Services Administration's study of March 1980 establishes that on the average, it cost 21.5 cents per mile to operate an automobile. H.R. 7072 would increase the current maximum reimbursement rate for operating a private automobile from 20 to 25 cents per mile, and GSA could establish a reimbursement rate to reflect its cost determinations. That rate could be increased as costs increase, but not in excess of the 25 cents per mile maximum.

H.R. 7072 would also correct the currently inadequate reimbursement rates for privately owned motorcycles and airplanes used for legitimate business trips. This bill would increase the maximum allowance for motorcycles from 11 cents to 20 cents per mile. It would also increase the maximum allowance for airplanes from 25 to 45 cents per mile.

Consideration was also given to the idea of reimbursing Federal employees who use their bicycles while on official business.

A bill before the committee (H.R. 6180) would add bicycles and pedal-assisted vehicles and provide allowance of four cents a mile to Federal employees for the use of such vehicles while on official business.

Greater use of bicycles by Federal employees in lieu of motorized transportation appears to offer opportunities for fuel conservation and perhaps dollar savings. In the past, the Congress, in determining allowances of this kind, has had the benefit of cost and use data prepared or assembled by certain Federal agencies. Unfortunately, there is not yet a full body of data relating to direct and indirect costs as well as procedures incident to bicycle use for official trips. In addition, there is need to consider bicycle use by Federal employees and other persons at Federal facilities for other than official travel.

Looking ahead to the possible need for further action to add incentives and opportunities for bicycle use, the committee sees its task made easier if there could be put in motion now a project to gather and analyze relevant information. Accordingly, the Comptroller General of the United States is requested to undertake such a project. It should examine all feasible means, procedures, and benefits to encourage and further the use of bicycles and other two-wheeled vehicles by persons using or visiting Federal buildings, facilities, and installations. The Comptroller General should consult with the Administrator of General Services, the Secretary of Transportation, and the Secretary of Energy. The Comptroller General's report, with recommendations for administrative or legislative action, should be submitted by March 31, 1981.

Reporting requirement

Section 3 of the bill as amended requires GSA to provide three yearly reports to Congress covering certain travel information. In evaluating the merits of both the mileage and per diem proposals, the committee needed answers to a number of questions, including the following:

- (1) How much is currently spent by the Federal Government on per diem and on mileage?
- (2) If the per diem and mileage allowances are increased and levels of travel remain constant, what would be the additional cost?
- (3) If the per diem and mileage allowances are increased, and no additional money is appropriated, how much will travel (or other activities) have to be cut in order to absorb these additional expenses?
- (4) For what types of travel are per diem and mileage expenditures made? What are the causes and purposes of such travel? What is the average cost and duration of a business trip taken by a Federal employee?
- (5) How can Federal travel be managed and conducted more efficiently?

During the course of the hearings on H.R. 7072, answers to those questions were never provided, because, as the subcommittee discovered, no one within the Federal Government was collecting the information needed to provide those answers.

Office of Management and Budget representatives did testify on April 17 that they have established a Travel Management Improvement Project, which is conducting a sampling survey of travel vouchers for fiscal year 1979, and an analysis of travel management practices within various agencies in order to collect detailed information about Federal travel. The committee is pleased to note that this effort had been undertaken, and expects that it will generate substantial useful information.

96TH CONGRESS
1ST SESSION

H. R. 6180

To amend title 5 of the United States Code to provide for an allowance of 4 cents per mile to Federal employees for the use of bicycles while engaged on official business, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 19, 1979

Mr. ANDERSON of California (for himself and Mr. MATSUI) introduced the following bill; which was referred to the Committee on Government Operations

A BILL

To amend title 5 of the United States Code to provide for an allowance of 4 cents per mile to Federal employees for the use of bicycles while engaged on official business, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That (a) section 5704(a) of title 5, United States Code, is
4 amended—
5 (1) in paragraph (2), by striking out “or”;
6 (2) in paragraph (3), by inserting “or” after “air-
7 plane;”; and

2

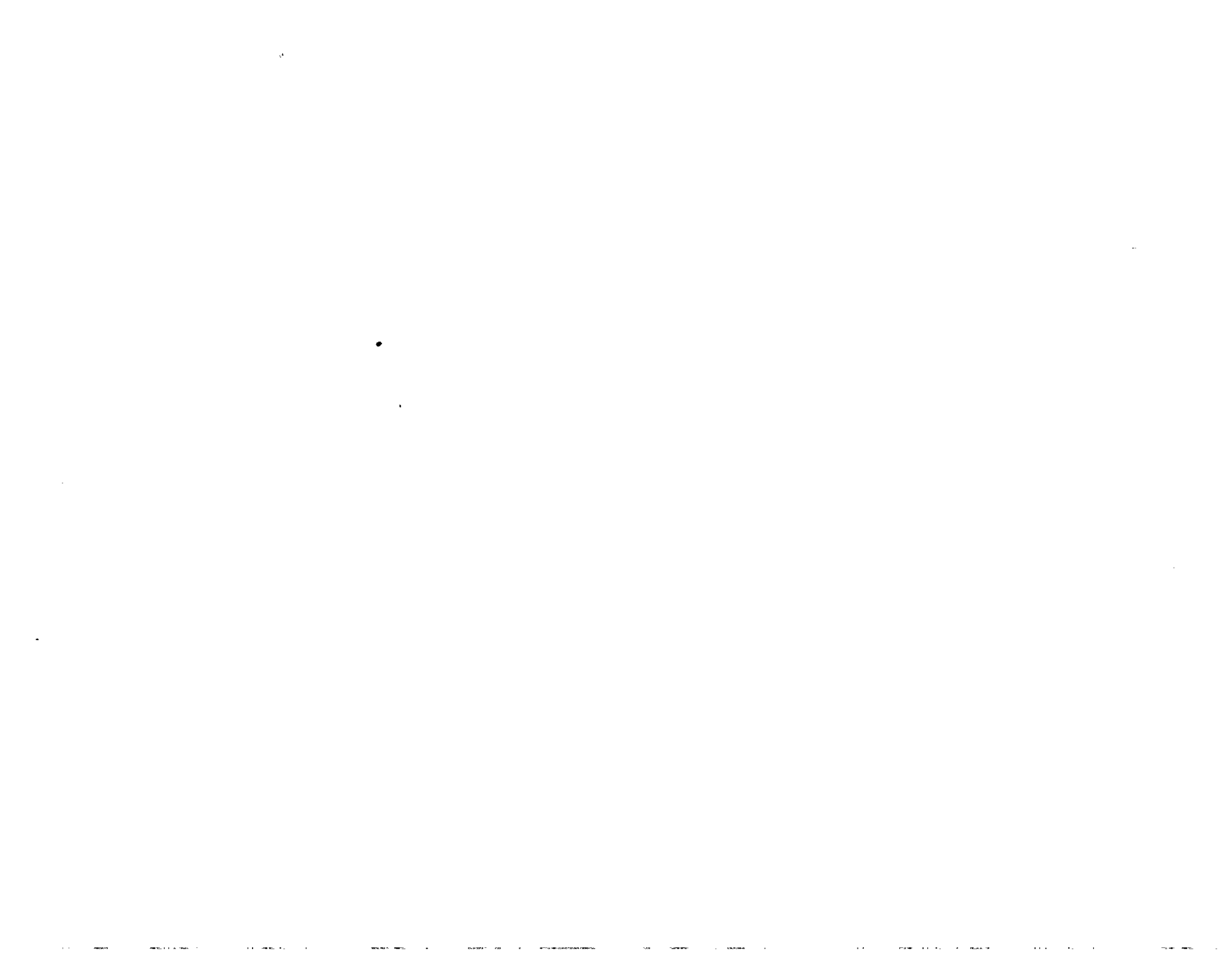
1 (3) by inserting after paragraph (3) the following
2 new paragraph:

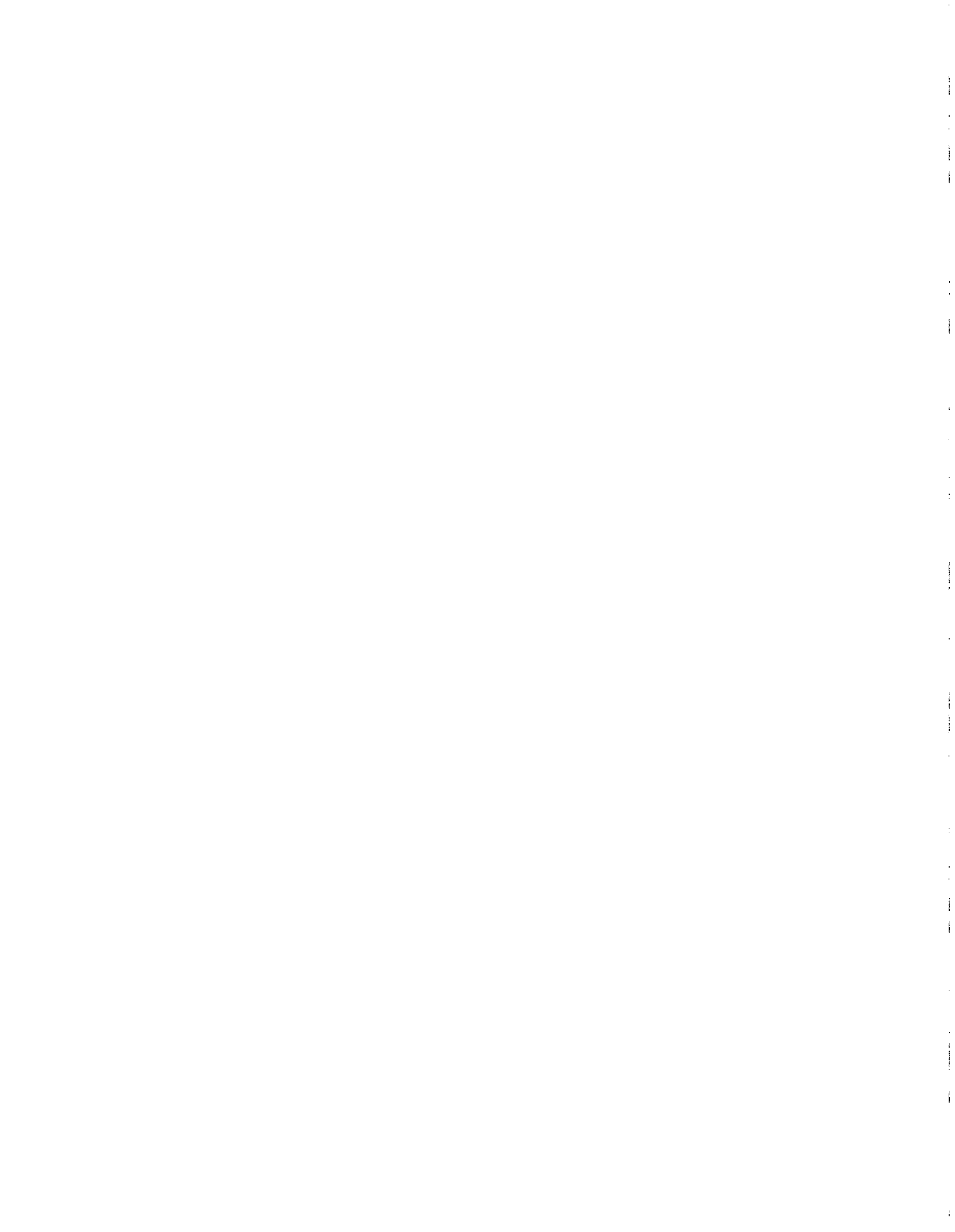
3 “(4) 4 cents a mile for the use of a privately
4 owned bicycle or pedal assisted vehicle;”.

5 (b) Section 5707(b)(2) of title 5, United States Code, is
6 amended by striking out “and airplanes” and “and airplane”
7 and inserting in lieu thereof “airplanes, and bicycles and
8 pedal assisted vehicles” and “airplane, and bicycle and pedal
9 assisted vehicle”, respectively.

10 SEC. 2. The amendments made by this Act shall take
11 effect sixty days after date of enactment.

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