

CHAPTER 2



1922: The Motorway from Milan to the Prealpine Lakes

The First Proposals for a “Special Road for Motor Vehicles”

The idea of a more “efficient” use of the roads was not a twentieth-century invention. As historians have noted, road renewal has always received strong attention from policy makers,¹ who needed to gain and retain control of the people, vehicles, and animals present on roadways.² The arrival of motor vehicles further pushed experts and car enthusiasts (usually overlapping with the members of the ruling groups) to have better roads suited to motor vehicles, as well as a new age of traffic flow management.

The roads of the early 1900s, even those surfaced in macadam, were not able to withstand the weight and the speed of motor vehicles.³ The rapid establishment of the automobile therefore posed new infrastructural problems, to which, early in the century, two possible solutions were offered: adapt motor vehicles to the roads, or adapt the roads to motor vehicles.⁴ The latter was the mainstream action by experts and policy makers, and as early as 1908, European coordination was envisioned: in order to harmonize the renewal process, an international conference on roads was announced, to be held in Paris. It aimed to coordinate interventions in the “war on dust” produced by motor vehicles as they drove along the old dirt roads. The next year, the foundation of the *Association internationale permanente des congrès de la route* (or, using its English acronym, PIARC, with the telling motto of “Roads-Life”) was a part of the new awareness of the roads issues, opening the way to a process of renewal of the roads built in the 1910s and 1920s.⁵

Together with the renewal of roads came the radical idea to construct tracks for the exclusive use of automobiles. Such roads would have routes, inclines, and characteristics perfectly adapted to the needs of the new means of transportation.⁶ Several of these proposals were justified not just by the desire to support the development of motorization, but also the protection of other users.⁷ Moreover, the provision of exclusive roads for motor traffic would fully exploit the potential of the new

means of locomotion, which would no longer be impeded by slow animal-drawn wagons and “undisciplined” and “dangerous” pedestrians.

Limiting ourselves to Italy, the project of special roads for the exclusive use of automobiles can be traced to 1906. In that year, the engineer Giuseppe Spera presented a brochure for the construction of an *autovia* (motorway), a “road for the exclusive use of automobiles” between Rome and Naples.⁸ A similar idea was suggested in 1914 by Francesco De’ Simone, head engineer of the Naples municipality, whose city plan proposed to relaunch commercial relations between Naples and Rome. “And to tighten the interests between these two great cities, it would be opportune to link them with means that are more direct, rapid and economical than that of the so-called direct [railway] line in construction. This could be achieved with a great artery running through an Apennine tunnel, and then following the route of the ancient Appia road over well-known ground. . . . On this artery, with a broad carriageway, an active tram service would be installed, and a smooth surface with many lanes for automobiles and other means of rapid communication.”⁹

Among the heritage of World War I, there was also a much vaster use of motor vehicles for commercial purposes and, in parallel, the development of domestic and international motor tourism.¹⁰ That trend was lubricated by the sale of numerous military trucks to civilians, which further enlarged the vehicle fleet, increasingly casting it less as elite and more for daily use.¹¹

It was in this context, between the need to modernize the roads and the timid but constant growth of motorization, that Milanese engineer Emilio Belloni put forward his proposal. Belloni’s idea was to improve the road connection between Milan and Venice with the construction of a “direct permanent road” reserved for motor vehicles and subject to a tax for use.¹² His project for a permanent road dated back several years, and included an equally poorly defined “road” ranging from Paris to Moscow,¹³ but he rededicated himself decidedly to the project in 1921 with the support of the Milan Chamber of Commerce. The latter announced a “convention of representatives from the interested provinces, municipalities and Chambers of Commerce, to discuss the proposal of engineer Emilio Belloni.” The convention would “take place on 23 June 1921, with the participation of delegates from the invited administrations and fourteen other requests to participate by letter and telegraph.”¹⁴

In Belloni’s project, the permanent road between Milan and Venice would not pass close to the cities between the two poles (Bergamo, Brescia, Verona, Vicenza), but would cut an almost straight line across the plains. As Bortolotti notes in his 1994 book, it was an “unsustain-

able route, which the good Belloni would have discarded if only he had read the shrewd essay [dating back to the 1840s] of Carlo Cattaneo on the Milan–Venice ‘Road of Iron.’¹⁵ The project’s lack of geographic and economic sense could be traced to its underlying blueprint, which evoked the 1700–1800s idea of navigable canals in northern Italy, rejecting the cities too close to the Alps. Sketched out in this way, the project was merely a connection between the port of Venice and the city of Milan, expecting exclusively commercial traffic. Nonetheless, the economic feasibility of the proposal was submitted for study to a commission composed of Senator Angelo Salmoiraghi, president of the Milan Chamber of Commerce, and engineers Guglielmo Gentili, conservative politician and provincial deputy of Milan, and Giovanni Gay, socialist and assessor of the Milan municipality. In November of 1921, the commission issued a positive judgment, claiming, in somewhat vague terms, that the project had “well-founded technical and economic bases and therefore merited being adopted and promptly translated into reality by the public authorities directly interested.”¹⁶

There was sporadic and little news about Belloni’s project over the course of 1922,¹⁷ but compared to proposals from the past, the Milan–Venice road offered novel elements. Although it was a flaky project, without economic credibility, it was visionary. It was presented and welcomed in the major Italian Chambers of Commerce, was circulated widely in all of northern Italy, and went from a roughly sketched idea to a topic of public discussion. Perhaps it was the favorable welcome and great interest for Belloni’s project that moved another engineer, Piero Puricelli, at the end of 1921 and the start of 1922, to advance his own proposal for a special road for automobiles between Milan and the Lombard prealpine lakes.

Piero Puricelli’s Initiatives

Between 1921 and 1922, Piero Puricelli prepared a pamphlet in which he presented a project to construct a “road network for motor vehicles,” connecting Milan with the Como, Varese, and Maggiore lakes.¹⁸ The project was highly accurate in its interpretation of the automobile phenomenon and in its hypothesis of how to construct a road network for motor vehicles. In first place, Puricelli underlined the difficulties of transport in Italy, pointing out that

an objective gaze at the Italian reality of communication leads to this desolate conclusion:

The railways: many new lines have not been constructed due to lack of means, although they are necessary and desired, and some [of those] have already been investigated by committees or local authorities. The existing lines, apart from the question of high and complicated tariffs, do not give any security of prompt transport nor guarantee the integrity of the goods being sent.

The roads: this network, far from being complete, should lead to the railway centers and absorb all the local traffic, but in practice, does not respond to this scope due to poor maintenance.¹⁹

In order to achieve better performance, the transport system should be modified to favor motor vehicles, for eminently economic motivations. Motorization represented a factor of progress and rationalization, for which there should be a corresponding process of reorganization and renewal of roads.

Industry and modern commerce employ the automobile on the road in the same way that calculating machines are employed in offices. Such are the times.

The roads now maintained (so to speak) in macadam, could still offer a lot of service, or rather, before trying new systems of paving, we must start to rationally maintain, . . . the paving already in use. The day will certainly come in which the roads, even if well-maintained, will not be able to handle the increase in traffic, and then we will impose a distinction of roads for *kinds* of traffic and, like the distinction between railways and roads today, these latter *will be subdivided for diverse needs*.²⁰

The project of an automobile roads network therefore was rationalized as favoring industrial and economic process, but at the same time it was a manifesto of the future destiny of the roads in an epoch that some claimed was marked by motor vehicles. On one side were the old roads, earmarked for local traffic of animal-drawn wagons; on the other was the new roads network—modern, fast, destined solely for automobiles.

The roads for motor vehicles will be real industrial roads and magnificent instruments of work.

The present report has precisely the scope of illustrating the need for construction in Italy of a *first roads network for motor vehicles*. Outside of Italy, this road is not a novelty. . . . Such a road will be a great line of easy, rapid connection between the grand Lombardy industrial centers, and therefore a necessary remedy to the railway's insufficiencies, as well as a healthy unburdening of the ordinary roads.

No one can doubt the advantages that such projects reflexively carry for the existing roads network, which will automatically find the circula-

tion of motor vehicles reduced to almost zero and where consequently the transit of pedestrians and animal-drawn vehicles can occur in the best conditions with a noticeable decrease in the cost of roads maintenance.²¹

A real road for motor vehicles, in Puricelli's vision, was one of savings and speed: with optimal conditions and stable paving. Automobile drivers would see consistent savings in consumption, and would also finally be able to use the full promise of their vehicles, no longer occupied with zigzagging cyclists, slow carriages, tight curves, dangerous bumps, etc., all elements that prevented drivers from deploying the potential of their automobiles.

Driving your powerful machines, capable of 100 [km] per hour, and your light, small cars, leads to disillusionment due to the modest average that you achieve, almost always inferior even to the modest permitted speed of 50 km[h]. It becomes a physical martyrdom due to the fatigue of the shaking, the steering, the braking, and distress of the dangers, disputes, and fights with undisciplined wagons. Finally, it is a surprise because the effective consumption is always a great deal larger than the theoretical one and the availability of the means is often truncated by the need for frequent repairs to the delicate organs of the mechanically perfect machine that the road ruins. And then . . . the duration . . .²²

Drivers' problems included such things as the inadequate roads, "the indifference, indiscipline and the insolence of the carters and wagon drivers, and the variety of the regulations and customs on which side of the road to stay on."²³ The "motor car road network" would abandon all the disadvantages of the old artery: as it would be created *ex novo*, it would be perfectly matched to the needs of the new means.

The characteristics of this new road for motor vehicles should be different from those of the ordinary roads:

- a) the new road will avoid passing through inhabited centers, in order to permit greater speeds with lesser risk, but will not skip the industrial centers so that people can access the new artery with their vehicles. . . .
- b) the routes will be shorter than the provincial roads. . . .
- c) they will avoid, as much as possible, crossing railways, *and will absolutely avoid level crossings.* . . .
- d) according to the altimetric profile of mountainous territories, road routes should result in the *least possible number of curves and maximum radii.*²⁴

This roads network, that is, what would come to be known as a motorway but was yet to be named, was to be constructed between Milan and

the prealpine lakes. It included the industrial areas of the zone, northeast of Milan, while the lakes themselves were the classical vacation places of the Milanese bourgeoisie, who were the main owners of automobiles at the time. According once again to Puricelli, "without any hesitation, the Lombardy region, which extends from Milan to the Maggiore, Como and Varese lakes, should be given preference and precedence. Milan—a great metropolis, rich with energy and full of activity, primed for further development; the world-famous Lombardy lakes, populated by enchanting villas and gardens; between Milan and the Lakes, one of Italy's most productive industrial zones."²⁵

These few points show the force of Puricelli's proposal, which was at once more realistic and more visionary than all of the projects that had been advanced until then. Puricelli proposed the idea of a relatively short connection, roughly 80 kilometers of motorway, in the most motorized provinces in Italy, on a route that offered a high amount of traffic for the national context. The works would additionally satisfy both the industrial interests of the area northwest of Milan and the tourism that gravitated to the lakes, guaranteeing a solid clientele, up until then unsatisfied by the current state of the transport networks. Finally, and not least, Piero Puricelli was a major Italian contractor, with important and broad contacts in economics and finance.²⁶

However, Puricelli's proposal contained not just a road project, but a radically innovative idea for transport that included the construction of special roads for automobiles, with characteristics that had never been seen before in Europe. Puricelli's project went beyond a mere calculation of existing traffic, which was characteristic of Belloni's project, for example, and plastically assumed the inevitable development of motorization: with little effort, he illustrated the strong limitations of the ordinary road network, which could impede this kind of exciting evolution. The futuristic proposal of roads just for automobiles was positioned as a logical conclusion: futuristic but always based on the solid knowledge that the future modernity and progress would be grounded on motorization.

His brochure on the project, ready by March 1922, was narratively engaging, probably the fruit of Puricelli's decision to involve Umberto Grioni's notorious Milanese advertising agency. He could also count on the staunch support of Luigi Vittorio Bertarelli, the charismatic president of the Italian Touring Club. At the start of 1922, the Milanese entrepreneur "printed a few copies of his report *Road networks for motor vehicles—Milan–Lake Como, Milan–Varese, Milan–Lake Maggiore*, distributing it in Milanese racing and industrial circles, and presenting it together with the president of our association, so that he could see

if the idea merited the patronage of the Italian Touring Club. With his usual rapidity and sure perception, L.V. Bertarelli understood the entire nature of the initiative, which is seriously documented in the previously mentioned report."²⁷

The Touring Club and Puricelli's Enterprises

The relationship between Puricelli and the Italian Touring Club dated back several years, to a common interest in the transport sector.²⁸ Since its foundation in 1894, the TCI (Touring Club Italiano) paid particular attention to the theme of mobility, continuously lobbying the government: the TCI advanced detailed proposals for legislative reform, while its representatives were present on ministerial reform committees. Between 1917 and 1918, a road materials laboratory, the first in Italy and well ahead of similar European and North American centers,²⁹ was housed at the TCI, proposed and financed by Piero Puricelli.³⁰ In 1918, the TCI went further and acquired the only Italian technical journal in the roads sector, *Le strade* (The Roads), founded in 1898 by engineer Massimo Tedeschi.³¹ Some of the TCI's more notable initiatives include touristic guides (aimed at cyclists as well as motoring tourists), the publication of a complete series of road maps, and the placing of warning signs at the most dangerous points of the roads network. This last initiative was carried out with renewed energy soon after World War I. It was an evident support of the circulation of motor vehicles, and received consistent contributions from companies in the automobile sector, such as Fiat, Pirelli, and Standard Oil.³² In spring 1921, the TCI board of directors approved a long report, published with the programmatic title "For Automobiles and Bicycles: Tools of Work" in the highly widespread social journal *Le vie d'Italia* (The Routes of Italy). The report was a precise compilation of the barriers to automobile development in Italy and the also numerous advantages that motor vehicles offered in terms of transport efficiency. It praised the role of trucks and buses in promoting connections to extra-urban areas, and noted that the car was "a wonderful multiplier of personal efficiencies," particularly "in cities and industrial regions."³³ Taxation of fuel and cars—the TCI lamented—was excessive, a constraint on the desirable growth of motorization. But the national roads system was just as lamentable: "Italian road assets, understandably neglected during the war, have entered, following the armistice, a period of *ruinous* decline."³⁴

This portrait of a suffering roads network naturally interested Piero Puricelli. After earning a degree in engineering from the Institute of Technology in Zurich, he entered the family construction company and

was soon in charge. The roads activities and management of several quarries were an excellent starting point, and the Milanese entrepreneur knew how to take full advantage of it. The vertical control of production processes, from gravel extraction to contracted works on public roads, was improved thanks to agreements with the Gola e Conelli company of Milan, the biggest company of roads machines in Italy,³⁵ and with the development of intense political and financial relationships. Puricelli consolidated his relationship with the provincial administrations, soon becoming much more than their supplier, and positioning himself as an interested ally within the debate of Italian roads management. It is also worth noting his meeting with engineer Giacomo Tedeschi, trustee of the *Banca Commerciale Italiana* (Italian Commercial Bank, better known as Comit). The meeting with Tedeschi led to a strategic alliance between Puricelli's enterprises, in the form of a limited society since 1914, and Comit. Since 1920, the president of Comit had been Cristoforo Benigno Crespi, father of Silvio Benigno Crespi, who was in his turn the head of the Italian Automobile Club and future president of the limited company Autostrade.³⁶ The alliance with Comit would see Puricelli take a seat on its board of directors in 1928 and go on to be vice president until 1943. He was also appointed president of the Milan Fair Agency and nominated as a senator in 1929.

Puricelli's profile emerges as an upper-class Renaissance man, well integrated in the Milanese social and financial circles of the day, an entrepreneur who strongly developed the family business—but, at the same time, a more complex figure. The noteworthy and unscrupulous development of his businesses confirms his attention to entrepreneurial matters, although Puricelli was always ambitiously open to new endeavors, frequently characterized by visionary elements, often giving little thought to their financial aspects.³⁷ During World War I and immediately after, the Milanese businessman constructed an extensive relational network. Then, between 1922 and 1927, as we will see further in the next chapter, he showed his unbridled activism in the roads field. He ranged from the promotion and construction of the Monza speedway in 1922³⁸ to the proposal of a private entity to manage state and provincial roads (1926–1927) and the establishment of a roads engineer chair at the Polytechnic University of Milan in 1925.³⁹ The motorway projects happened within this context of entrepreneurial and social affirmation: in today's terminology, Puricelli used these elements as an extraordinary tool for company public relations.

The project reverberated soundly among Milanese entrepreneurs, politicians, and policy makers because the motorway program matched the *Zeitgeist* of the city. After the 1870s, Milan "changed into an industrial

city,” becoming the main Italian financial center, as it is today. It also had a wider meaning: at the verge of the twentieth century, Milan “was identified with its industries, in which industry was a synonym of modernity in the economic field, as well as in social behavior.”⁴⁰ So, the opening in 1882 of the Gotthard railway tunnel, or the city’s inauguration—in 1883—of “the small thermo-power station in via Santa Ragedonda, among the first ones in the world”⁴¹ were not just technological achievements, but were identity-building factors, confirmed by a growing population, which reached about 800,000 inhabitants in 1921. Milan was not just a busy economic city, but a cultural hub in the Italian landscape, seat of the most prestigious national newspaper, *Il Corriere della Sera*, as well as of many of the principal publishers. The title of Italian “Capitale morale” (moral capital of the country), facing off with Rome as the purely political capital, was an appellation that summarized the city’s self-esteem as well as its economic and social achievements. The motorway project perfectly fit this landscape, promising innovative technological outcomes that were avant-garde and something to be proud of, backed by a (supposedly) solid cost-benefit analysis.

From Plan to Approval

Even before submitting his proposal to the TCI, Puricelli “prepared the plan, . . . collecting supporters including attorney Mr. Bolchini, Dr. Piero

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Figure 2.1. First Milan–Lakes project, 1922.

Piero Puricelli, *Rete stradale per autoveicoli Milano–Lago di Como Milano–Varese Milano–Lago Maggiore. Relazione* (Milano: Umberto Grioni, s.d. [1922]). Courtesy of Autostrade per l’Italia S.p.A.

Figure 2.2. Second Milan–Lakes project, 1923.

Le autostrade da Milano ai Laghi (Milano: Società anonima Autostrade, 1923). Courtesy of Autostrade per l’Italia S.p.A.

Pirelli, Commander Ernesto Reinach, Commander Ernesto Vaccarossi, and Piero Ostali.⁴² Reassured by these first positive informal meetings and sure of the converging interests, it is not surprising that

The Touring [Club] put all its influence and organization at the service of the good idea. To this purpose, the [TCI] president appointed a study commission with many experts to examine the project from every point of view. The aim was to create the elements that would lead to effective action by the public powers, so that they would consent to and favor the realization of the project itself. This commission met for the first time on 11 March 1922 and was subdivided into several sub-commissions to examine the project in terms of technical, economic, and legal elements, not to mention the necessary propaganda.⁴³

The commission boasted the most important names of the Milanese upper class, many of whom were founders of the Rotary Club, such as Bertarelli and Puricelli, Silvio Crespi, Piero Pirelli, Giuseppe Toeplitz, and Ernesto Reinach. But it was the municipal council member, socialist Alessandro Schiavi, who prepared the agenda that was voted on at the meeting in March 1922.⁴⁴ During the sub-committee meetings, the unarguable need emerged to find a concise but easily understandable name for the "special roads for motor vehicles": rejecting the *autovie* (literally "car ways") that had already been in use from 1906, the word *autostrade* (literally "car roads") was suggested, but it is not known today by whom. In the course of its activities, the legal sub-commission prepared "a 'framework for a law to establish an agency for motorways [*autostrade*],' which was personally presented by the president of the TCI to the government and the major competent authorities, illustrating the spirit and the scope, and obtaining the best assurances of a benevolent examination of the question."⁴⁵ The proposal demonstrated how the Milanese committee and the TCI had passed from planning to realization, finding a political advocate in Minister Luigi Rossi, in the summer of 1922.⁴⁶

The rapid end of the last democratic government in October 1922 was an unexpected but favorable event for the creators of the motorway. Testimonies from contemporaries, often written just a few months later and not yet polluted by the ritual and apologist tributes to the Fascist regime, all agreed that the project accelerated under the first Mussolini government. Italo Vandone, fully involved in the business, noted as early as February 1923, with some surprise, that "the new directors of the public policy instantly seem not just benevolent toward the project, but enthusiastic."⁴⁷ Today a detailed reconstruction can be made of the events between the end of October 1922, with Mussolini's appointment

to office, and January 1923, when the agreement for the construction of the motorway was signed.

In September of 1922 the newspaper *Il Popolo d'Italia* (founded and directed by Mussolini) had already printed words of approval for Puricelli's motorway project.⁴⁸ The next month, Mussolini was appointed prime minister, and he seemed extremely interested in the initiative, coming as it did from Milan, the city that had guaranteed his political fortunes. It did not take great political savvy to understand the aspects that appealed to him, even those beyond his personal link to Puricelli and Crespi.

As Carlo Mochi notes, the trauma of possible socialist subversion conferred "a strategic collocation on the functioning and improvement of transport activities. On the one hand [this latter objective] became almost emblematic of a rediscovered social order and the return of respect for state rule. On the other hand, it returned to a tacit pact, sanctioned by the middle classes, of a newfound consolidation of social hierarchy, deeply shaken by the growth of political weight and negotiation power of the working classes."⁴⁹

The motorway seemed innovative, and met the Fascist regime's need for "palingenetic" initiatives, complementing a series of other initiatives that had had a strong impact on public opinion, like the special commissioner for the railways.⁵⁰ Alert to this mood, the advocates for the motorway—as Bertarelli recalled in January 1923—were persuaded to drop "those reasons of opportunity that had originally suggested the adoption of an independent agency as the organ for the execution and management of the motorway and instead reintroduced as a better option the idea of a limited company, as previously explored."⁵¹ In this way, the project was far more consistent with the ambitions of the new government, with one less obstacle to its realization. This was also linked to the change of pace of the first fascist governments, which until 1925 managed a wave of privatization of public utilities, including telecommunications, and even suggested the privatization of the (government-owned) railways company,⁵² a goal soon abandoned. In this framework, the concept of a concession gained momentum, and this new political landscape was immediately well understood by Puricelli and his partners.

On 13 November 1922, Piero Puricelli and Arturo Mercanti, director of the Milan Automobile Club,

had a first meeting with the honorable Mr. Finzi and the honorable Prime Minister Mussolini, in which the support of the government was assured,

considering the economic advantages deriving from the execution of the work proposed and the social benefits for the relief of unemployment.

In the meeting, the honorable Mussolini asked his government collaborators to arrange for the legal needs by the end of the month, in order to ensure recognition of the public utility of the work.

The prime minister then asked that he himself be able to inaugurate the works with the first strike of the pick on the first of January 1923, and to have the work completed in the shortest time possible. "Within a year," he said, evidently recalling the astonishing rapidity of the completion of the Milan speedway in the royal park of Monza.⁵³

From that moment on, the events ran with a speed that undoubtedly showed Mussolini's unconditional support. On 18 November, five days after the meeting between Mussolini and Puricelli, the limited company *Autostrade* was constituted, funded with a symbolic initial capital of 20,000 lire (about the same amount in today's USD), contributed in equal parts with the TCI and the Milan Automobile Club. Less than two weeks later, on 1 December 1922, a month after the constitution of the cabinet, Mussolini's Council of Ministers authorized the Ministry of Public Works to draft a convention "for the construction of a great road between Milan and the lakes, . . . destined exclusively for automobile and truck traffic."⁵⁴ The haste to begin the project was such that the deliberations approved on 1 December were not "sufficient to establish the relative decree." And so on 17 December, a new ministerial approval finally authorized the concession.

The government decree equated the motorway to a public work, with the relevant rights of expropriation. This further guaranteed it an annual state contribution, which however, would need to be repaid. The promoters now had to source the necessary capital for the effective construction of the motorway: with that aim, on 5 January 1923, at the Milan Chamber of Commerce, a public presentation of the initiative was made. This invited the participation "of the representatives of the provinces and municipalities, and notable citizens, to illustrate the project of construction and management of the motorway." Aldo Finzi, undersecretary of the interior (and manager of the secret funds granted to Mussolini),⁵⁵ represented the government at the meeting, at which Bertarelli and Crespi presented the project and asked for share subscriptions.⁵⁶ Meanwhile the *Autostrade* company increased its share capital, due partly to investments from Puricelli and Comit. The honorary presidency of the society was filled by the TCI president. The effective president was Silvio Crespi, the vice-president was Stefano Benni (future president of *Confindustria*, the Italian industrial association), and

the CEO was Piero Puricelli. The board of directors included the names of Piero Pirelli, Arturo Mercanti, and Ernesto Reinach, among others.

On 26 March 1923, as promised, Mussolini participated in the ceremony of the first strike of the pick, which started the construction work for the motorway.⁵⁷ The affair had unfolded so quickly that it had even caught its promoters off guard: in the spring of 1923, after the approval of the convention, Puricelli still did not know the technical details of the future motorway.⁵⁸

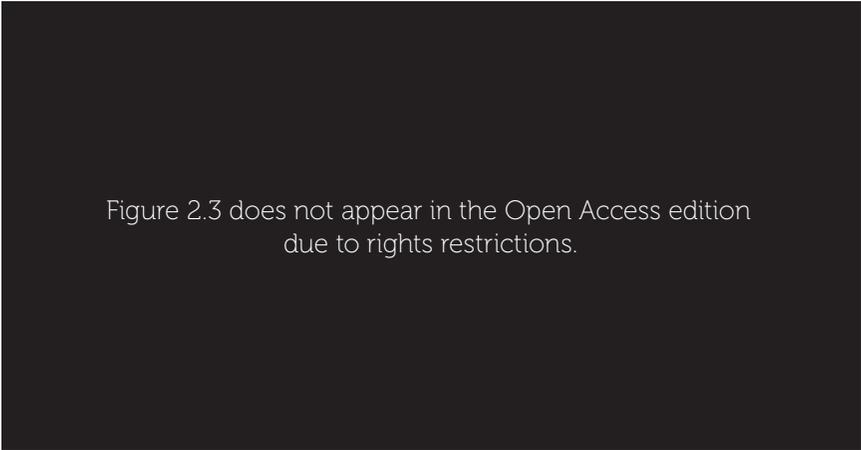


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Figure 2.3. Celebration for Benito Mussolini during the inauguration of the Milan–Lakes works, 1923.

Piero Puricelli, *Le autostrade e la Milano–Laghi* (Milano: Bestetti e Tuminelli, 1925). Courtesy of Autostrade per l'Italia S.p.A.

How Were the First Motorways Made?

The construction works on the motorway between Milan and the lakes, formed by three different trunks and a total length of 84 kilometers, were effectively begun only in June 1923, once all the necessary authorizations had been obtained.⁵⁹ The Milan–Varese section was completed, inaugurated on 21 September 1924 by King Vittorio Emanuele III, accompanied by the new mayor of Milan, Luigi Mangiagalli, and obviously, by Puricelli.⁶⁰ The event was covered by the highly popular *Domenica del Corriere* weekly newspaper, and was even given the cover of the 5 October 1924 edition. In June 1925 the trunk between Lainate and Como was opened, while on 3 September 1925 the last tract, between Gallarate and Sesto Calende, was also opened to traffic.

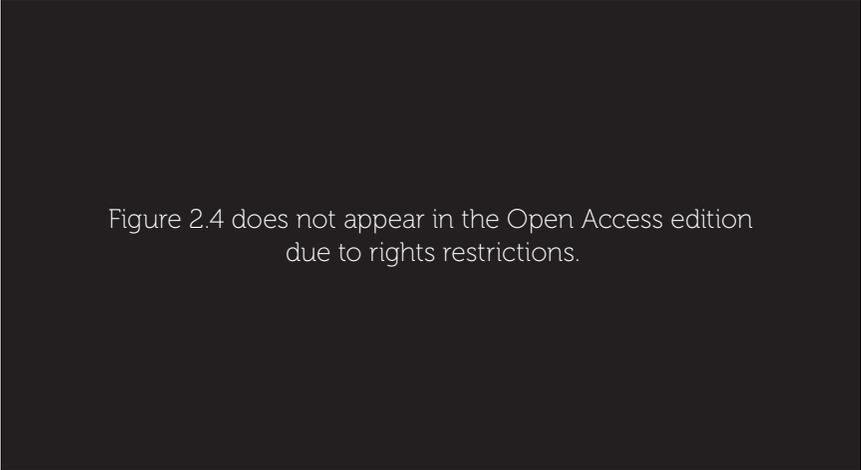


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Figure 2.4. Inauguration of the Milan–Lakes motorway, 1924. Puricelli, *Le autostrade e la Milano–Laghi*.

Courtesy of Autostrade per l'Italia S.p.A.

But what kind of motorway would users find, in this first realization and in all those roads completed between the two wars? Like all subsequent Italian motorways of the period, the Milan–Lakes motorway had just one carriageway to serve both directions, which was 8 meters wide and had two lateral shoulders of a meter each.⁶¹ The subdivision in lanes was purely theoretical, as there was no center line, nor any road surface marking. The users had to stay on the right while driving.⁶²

The entrance to the motorway was from ordinary roads and could occur only at determined junctions, equipped with tollhouses, and non-motor vehicles were excluded.⁶³ On arrival at the motorway, motorists found a closed gate, which the road inspector, who lived in the tollhouse with his family, would hasten to open. Just as in railway stations, drivers would purchase a ticket by declaring the route they intended to take. The cost of driving the Milan–Varese tract, for example, for a vehicle of average engine size, was 17 lire (USD 13 today). It was not a cheap deal for those times.⁶⁴

Once he had sold the voucher, which had to be shown to the road inspector at the exit tollbooth by the driver, the (always male) employee would open the gate and check that no other vehicles were coming down the motorway, and then leave the way free for entrance. A “road inspector cyclist” policed the motorway. All employees wore a uniform and were required to greet “every car in military style.”⁶⁵ The motorway closed at night: “the hours of service, which correspond with those

of the daily opening and closing of the motorway, are from six in the morning until one at night."⁶⁶

Jelmoni—on the occasion of the fiftieth anniversary of the Milan–Lakes—drew on his personal memories to describe the procedure of entering the motorway. The result was a truthful account, but one that is intentionally tinged by folklore to emphasize the primitive aspects of the first motorway constructions, especially compared to “modern” post–World War II realizations.

These motorway entrances would be on one side or the other of the road, but on one side only, with the so-called “tollbooth” next to it. This was a little house, with slightly elaborate architecture, wanting taste and which perhaps was meant to be picturesque.

This was where the “toll collector” lived with his family, and he collected the toll (at night, however, they all slept, and you might have to wait a half hour for him to wake up). These entrances were the point of direct access for motor vehicles in both directions on the motorway (but who could have ever imagined acceleration and deceleration lanes then?). This therefore entailed, for those turning left, crossing the lanes, because (naturally) overpasses did not exist. Nor, in reality, were they needed, since the traffic that traveled on the motorway back then, and in following years, was far enough apart that it was possible to cross the road without great danger. After all, the diligent toll collector—if it wasn’t raining or too cold—would go into the middle of the motorway, and, inspecting first one then the other horizon, guarantee the safety of those entering.⁶⁷

In effect, the design of the Milan–Lakes motorway was such that the flow of vehicles in each direction interfered with traffic in the other direction while entering and exiting the road, but it was true that motorists were relatively scarce. For example, the Milan–Lakes motorway had an annual average of a thousand motor vehicles per day, with an average distance traveled less than the total length, equal to about half the distance.⁶⁸ Considering that the opening hours spanned 20 hours, this meant that in each direction, about ten cars an hour would pass a single point, one every 6 minutes; on the Bergamo–Brescia, the stretch of road with the lowest traffic, the average was one every 10–15 minutes.⁶⁹

The frequency of passing cars in the 1920s was the subject, after World War II, of several statements by engineer Bruno Bolis, one of the shrewdest engineers of the era. He confirmed the statistical data.

When the motorway was born in Italy between 1922 and 1924, the speed and intensity of the traffic was still very modest and did not cause particular problems. Between 1925 and 1930, on the Milan–Como, one drove

at a maximum of 70km/h (from personal memory) and along the entire route did not meet more than four or five cars. The visibility on hills in the road appeared insufficient as early as those years, but the access to the tollbooths and the collection of tolls meant that one did not get bored. Next to the desired entrance, one would stop, the toll collector would run over and, checking the voucher, indicate the exit road and

Figure 2.5 does not appear in the Open Access edition due to rights restrictions.

Figure 2.5. Milan–Lakes motorway, 1924.

Puricelli, *Le autostrade e la Milano–Laghi*. Courtesy of Autostrade per l'Italia S.p.A.

Figure 2.6 does not appear in the Open Access edition due to rights restrictions.

Figure 2.6. Milan–Lakes motorway, 1924.

Source: Puricelli, *Le autostrade e la Milano–Laghi*. Courtesy of Autostrade per l'Italia S.p.A.

supervise the maneuver; a short track connected the motorway to the state or provincial road.⁷⁰

In other words, the Italian motorways of the era were desolately empty, seen not just through our own eyes, but also through those of contemporaries, and even more so through the eyes of foreign guests, who began to visit a few years later, animated by strong interest and curiosity. Recalling those events a couple of decades later, Bolis noted: "Around 1930, attracted by the fame of the motorway, engineers arrived in Milan, especially from South America, and often made their base at the Polytechnic University: I was required to accompany them on their visits. The motorways in that time were almost deserted and we often had to wait more than a quarter of an hour before we saw a car pass. . . . I'll never forget the sense of astonishment of several of those visitors and the guaranteed final questions: But why did you do it? Where's the traffic? What's it for?"⁷¹

The absence of traffic, and the perfect road surface in sheets of concrete, covered with "a layer of Mexican bitumen,"⁷² made the travel experience unique in Italy (and Europe) for the time, offering—at least as long as the company that owned it ensured good maintenance—the possibility to drive at maximum speed of motor vehicles. It was an almost unbelievable thing to be able to drive in a car on a road without holes, without suffering juddering, without causing dust, and without encountering animal-drawn carts that noticeably slowed the speed.

Unused to such traffic conditions, the drivers often forgot the limits of their vehicles and ruined their motors. The problem was widespread enough that, a year after the motorway opened, during the international congress of roads held in Milan in 1926, Edmond Chiaux, vice-president of the French Automobile Club,⁷³ contested the idea that the motorway represented a savings on oil and fuel. "I believe that the motorway consumes more oil than on ordinary roads. Mr. Puricelli, like Mr. Michelin, must have observed that the drivers get overexcited and are not careful of the speed or the heating of the motor."⁷⁴ It was Édouard Michelin himself, present at the congress, who responded to the observation, confirming that, in fact, only an expert driver, perhaps only a professional, paid attention to the risk of pushing his car beyond its limits, although the motorway was incomparable in the safety it offered.

Before arriving in Milan, I was curious enough to drive the motorway. On the road leading to it, we did an average of 46 km per hour and ran the risk of three accidents. Once we entered the motorway, we drove at 90–100–110 km per hour; all of a sudden, my driver slowed and told me: "The oil is at 111° and it can't go higher than 114°."

So we slowed down. So, on an ordinary road in good conditions, with reasonably intense circulation, I did 46 km per hour, while on the motorway I did an average of 79 km per hour without risk of accidents. I think this constitutes a great success.⁷⁵

As in the case of the railways, the motorways were intended to integrate the system of ordinary roads. While to use the train one had to buy a ticket, one could use the motorway in exchange for a toll, obviously proportional to the length of tract used. The earnings were meant to cover the expense of management and construction. Regarding financing, the government had issued a decree—after the signing of a convention—that entrusted the construction and management of the motorway to a limited company with private holder rights to a multiyear concession, usually of fifty years. When the appointment expired, a final transfer back to the state (the state buyback) would take place.⁷⁶

The relationship between the state and the constructing entity, the framework of which followed the old institution of railway concessions, was formalized in the following characteristics:

- obligation for the concessionaire to construct and manage the motorway and collect the tolls;
- surveillance from the state over the construction and management, including fixing of the toll fee; . . .
- devolution of the motorway to the state on the expiry of the concession.⁷⁷

The exceptions to these arrangements—common to all the Italian motorways opened between the two wars—were Rome–Ostia and Genoa–Serravalle, both constructed directly by the state, with the former not subject to a toll.

The costs of completing a motorway were, for the times, not low, and the expenses differed greatly depending on the functions and difficulty of the work, the need for bridges, viaducts, and tunnels, and the attention paid by the concessionaire company to the fairness of the subcontracts. They varied from a cost per kilometer of 875,000 lire (USD 900,000 in today's value) for the Turin–Milan to around 4 million lire (nearly USD 5 million) for the Genoa–Serravalle Scrivia.⁷⁸

As for the method of financing, the resources for the motorway construction had different origins. One part came from the share capital of the limited company that held the concession. This capital was collected through voluntary subscriptions, which rarely went over 20 or 25 percent of the total. Another consistent part of the funds came from nonrepayable funds obtained from local authorities and the interested chambers of commerce. For its part, the state issued an annual

subsidy—generally for up to fifty years—which covered a third of the *estimated* cost. The limited company however, was obliged to repay the subsidy annually, before paying any share dividends. This meant that—in theory—the state would be reimbursed for its subsidy and the construction of the motorway would have cost the treasury nothing. In this scenario, the public sector would have profited from the buyback at the expiry of the concession as well as from the copartnership in the profits, as provided for, with enthusiasm, in the Milan–Lakes convention. The profits of the company, after any taxes, expenses, and the fifty-year depreciation rate were deducted, would be distributed using the following criteria:

- up to 4% [of profit]: 95% to the shareholders and 5% to the treasury;
- between 6% and 8% [of profit]: 70% to shareholders and 30% to the treasury;
- over 8%: half to the shareholders and half to the treasury.⁷⁹

Finally, to cover the remaining costs there would be bonds issued, with the earnings guaranteed by the state or local authorities. The role of private bodies was therefore rather limited and the public subsidies—from the state, local authorities, and chambers of commerce—always covered the majority of the necessary finances. It must also be remembered that many contractors became, despite themselves, motorway shareholders, receiving a quota of the payments for the works carried out in the form of shares.⁸⁰

Notes

1. The realization of the American highway system received attention from many scholars, showing a vibrant market for the topic. Authors we can now consider classics in the field, like Rose, Seely, and Tarr, just to mention a few names, have published their works on the highway construction, followed in recent times by Gutfreund, Fein, and Sutter (again, just mentioning a few). On the European side, among others, Mom, Zeller, Schipper, Carreras, Moeser, Merriman, and Passalacqua have devoted their time to road construction in the interbellum period. Unfortunately, we have little literature (in English) about non-North-Atlantic road construction.
2. On this, see Arnaud Passalacqua, *La bataille de la route* (Paris: Descartes & Cie, 2010). See also Peter Norton, *Fighting Traffic: The Dawn of the Motor Age in the American City* (Cambridge, MA: MIT Press, 2008); Kurt Möser, "The Dark Side of 'Automobilism', 1900–30: Violence, War and the Motor Car," *The Journal of Transport History* 24, no. 2 (2003), 238–258; Uwe Fraunholz, *Motorphobia: Anti-Automobiler Protest in Kaiserreich und Weimarer Republik* (Göttingen:

- Vandenhoeck & Ruprecht, 2000); Ronald R. Kline, *Consumers in the Country: Technology and Social Change in Rural America* (Baltimore: Johns Hopkins University Press, 2000); Catherine Bertho Lavenir, *La roue et le stylo. Comment nous sommes devenus touristes* (Paris: Odile Jacob, 1999); Sean O'Connell, *The Car and British Society: Class, Gender and Motoring: 1896–1936* (Manchester: Manchester University Press, 1998); Clay McShane, *Down the Asphalt Path: The Automobile and the American City* (New York: Columbia University Press, 1994).
3. See James J. Flink, *America Adopts Automobile, 1895–1910* (Cambridge, MA: MIT Press, 1970), 211, and Gijs Mom, "Inter-artifactual Technology Transfer: Road Building Technology in the Netherlands and the Competition Between Bricks, Macadam, Asphalt and Concrete," *History and Technology: An International Journal* 20, no. 1 (2004), 75–96, here 78. See also Gijs Mom, "Roads without Rails: European Highway-Network Building and the Desire for Long-Range Motorized Mobility," *Technology and Culture* 46, no. 4 (2005), 750–753.
 4. See Gijs Mom, "Building an Automobile System; PIARC and Road Safety (1908–1938)," Proceedings of the PIARC conference, Paris, 17–23 September 2007, CD-Rom.
 5. On the activity of the Association Internationale Permanente des Congrès de la Route see *Aipcr/Piarc 1909–1969* (Paris: Aipcr/Piarc, 1970), and in particular, the essay contained there by E. Nuad, "Soixante ans de l'Aipcr/Sixty years of Piarc," 15–28. A historical appraisal is contained in Gijs Mom, "Building an Automobile System."
 6. See Gijs Mom, "Roads without Rails," 754–756, and Marc Desportes, "Le prime autostrade francesi. Resistenze e dilazioni," *Storia urbana* 26, no. 100 (2002), 55–84, here 57.
 7. See Wolfgang Sachs, *For Love of the Automobile: Looking Back into the History of Our Desires* (Berkeley: University of California Press, 1992), 12–23.
 8. See Giuseppe Spera, *L'autovia Roma–Terracina–Gaeta–Napoli e l'avvenire di Roma e Napoli* (Roma: Tip. Coop. Sociale, 1906).
 9. Francesco De' Simone, *Piano Regolatore della Città di Napoli. 2° edizione* (Milano Roma Napoli: Società editrice Dante Alighieri, 1922), 16.
 10. The increase of vehicles was in fact significant: in 1914, the total circulation in Italy of automobiles, trucks, and buses was around 24,000 (one for every 1,600 inhabitants); in 1920 it became 49,500 (one for every 760); and in 1925 rose to 117,500 (one for every 335). See Anfia, *Automobile in cifre* (Torino: Anfia, 1962), 28. For the data on European car density, see Brian R. Mitchell, *European Historical Statistics* (London: Macmillan, 1975), esp. 638–645.
 11. Trucks for civilian use in circulation in Italy went from 3,384 units in 1917 to 5,547 in 1918 and 17,410 in 1920; see Anfia, *Automobile in cifre*, 28.
 12. See Camera di commercio ed industria di Milano, *La strada permanente diretta Milano–Venezia* (Milano: Rovere, 1921).
 13. See Emilio Belloni, "La gran via del 45° parallelo," *Il sole*, 22 June 1916, and Emilio Belloni, "La via del 45° parallelo dalla Francia alla Russia," *Il sole*, 11 November 1918.
 14. Camera di commercio ed industria di Milano, *La strada permanente*, 6.
 15. Lando Bortolotti and Giuseppe De Luca, *Fascismo e autostrade. Un caso di sintesi: La Firenze–mare* (Milano: Franco Angeli, 1994), 45.
 16. Camera di commercio ed industria di Milano, *La strada permanente*, 14.
 17. See *Atti del III Convegno nazionale stradale promosso ed organizzato dal Touring Club Italiano. Napoli 30 marzo–4 aprile 1922* (Milano: Tci, 1922), 49.

18. On the events of the Milan–Lakes motorway, see *Le autostrade da Milano ai Laghi* (Milano: Società anonima Autostrade, 1923); Piero Puricelli, *Le autostrade e la Milano–Laghi* (Milano: Bestetti e Tuminelli, 1925); Giovanni Da Rios and Savino Rinelli, "Autostrada Milano–Laghi," in *Le autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 35–55; Sergio Mattia, "La costruzione dell'autostrada Milano–Laghi," in *Costruire in Lombardia, volume IV, Rete e infrastrutture territoriali*, ed. Ornella Selva-folta and Aldo Castellano (Milano: Electa, 1984), 175–206.
19. Piero Puricelli, *Rete stradale per autoveicoli Milano–Lago di Como Milano–Varese Milano–Lago Maggiore. Relazione* (Milano: Umberto Grioni, s.d. [1922]), 3.
20. Puricelli, *Rete stradale per autoveicoli*, 4, italics in original.
21. *Ibid.*
22. *Ibid.*, 11, italics in original.
23. *Ibid.*
24. *Ibid.*, 5, italics in original.
25. Puricelli, *Le autostrade e la Milano–Laghi*, 12.
26. On the figure of Piero Puricelli, in addition to essays by Nicola De Ianni, Annabella Galleni, and Francesco Aimone Jelmoni, see Bortolotti and De Luca, *Fascismo e autostrade*, 26 et seq.
27. Italo Vandone, "Le 'Autostrade' da Milano ai laghi lombardi," *Le Strade 2* (1923), 33–37, here 34.
28. On the role of the TCI in the Italian panorama, see Daniele Bardelli, *L'Italia viaggia. Il Touring Club, la nazione e la modernità (1894–1927)* (Roma: Bulzoni, 2004), and Stefano Pivato, *Il Touring Club Italiano* (Bologna: Il Mulino, 2006).
29. Gijs Mom, *Atlantic Automobilmism: Emergence and Persistence of the Car, 1895–1940* (New York and Oxford: Berghahn, 2015), 579.
30. See *I sessant'anni di Touring Club 1894–1954* (Milano: Tci, 1954), 174 et seq.
31. See "La trasformazione della nostra rivista," *Le strade 12* (1918), 133–135.
32. See Luigi Vittorio Bertarelli, "Un anno del consorzio Touring-Fiat e Touring-Pirelli per i cartelli indicatori," *Le vie d'Italia 3* (1922), 225–233, and Luigi Vittorio Bertarelli, "Due milioni per diecimila cartelli di comune. Un consorzio fra il Touring e la Società Italo-americana pel petrolio," *Le vie d'Italia 10* (1922), 961–965.
33. Consiglio del Tci, "Per l'automobile e per la bicicletta 'strumenti di lavoro'. Prima parte," *Le vie d'Italia 7* (1921), 692–700, here 694.
34. Consiglio del Tci, "Per l'automobile e per la bicicletta 'strumenti di lavoro'. Seconda parte," *Le vie d'Italia 8* (1921), 803–808, here 807, italics in original. On these themes, see also Bardelli, *L'Italia viaggia*, 416 et seq.
35. See Nicola De Ianni, "Vecchi e nuovi documenti sullo 'Stato industriale,'" in *La storia e l'economia, volume 2*, ed. Anna Maria Falchero, Andrea Giuntini, Giampietro Nigro, Luciano Segreto (Varese: Lativa, 2003), 291–316, here 293.
36. On Silvio Benigno Crespi see Roberto Romano, "Silvio Benigno Crespi," in *Dizionario biografico degli italiani, volume 30* (Roma: Istituto della enciclopedia italiana, 1984), available at http://www.treccani.it/enciclopedia/silvio-benigno-crespi_%28Dizionario_Biografico%29/, accessed on 3 April 2016.
37. The motorway society controlled by Puricelli is a good example of how financial and accounting conduct was not always exemplary, and pushed the limits of the penal code: see in particular Bortolotti and De Luca, *Fascismo e autostrade*, 26 et seq., and the letters of the Ministry of Public Works to the PCM dated 3 December 1931 in Acs, Pcm, 1931–33, 7/1–2/4549, Autostrada Torino–Milano.

38. On the Monza speedway see Italo Vandone, "Il 'circuito di Milano' nel parco di Monza," *Le vie d'Italia* 8 (1922), 817–824, and Lando Ferretti, "Il circuito di Milano," *Le vie d'Italia* 10 (1922), 961–965.
39. On the collaboration between the Polytechnic University of Milan and Puricelli, see Francesco Aimone Jelmoni, "Piero Puricelli," in *Le autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 20–23, here 21.
40. Giorgio Bigatti, *Alberto Riva a la Milano del suo tempo* (Milano: Brioschi, 2013), 20.
41. *Ibid.*
42. *Le autostrade da Milano ai Laghi*, 17.
43. Vandone, "Le 'Autostrade' da Milano ai laghi lombardi," 34–35. See also "Le strade per automobili. Da Milano ai laghi e Varese con strade apposite," *Corriere della Sera*, 22 March 1922.
44. The complete list of the members of the commission, published in the January 1923 issue of *Le vie d'Italia*, was endless but merits being reported for the broadness of its components—political, social, and economic. Taking part were B. Belotti, L. V. Bertarelli, G. Bognetti, F. Guasti, F. Johnson, G. Mira, C. Moldenhauer, E. Moro, P. Moro, D. Rosetti, F. Sansoni, and A. Zaffaroni from the TCI board of governors; as well as A.G. Bianchi, journalist; F.E. Balzarotti, from Credito Italiano; lawyer F. Bolchini; the Hon. A. Beltramini; engineer E. Broggi from the technical office of the Milan province; Senator S. Crespi; A. Brusa Pasqué from the Como provincial deputation; engineer A. Castelli; engineer P. Cattaneo from the technical office of the City of Milan; Dr. B. Dolcetta, co-manager of the Banca Commerciale Italiana (Comit); Senator L. Della Torre; the Hon. G. De Capitani; Dr. A. Filippetti, mayor of Milan; the Hon. E. Gonzalez, president of the provincial board of Milan; U. Grioni, editor and publicist; engineer A. Lodolo from the Credito Italiano; lawyer N. Levi, president of the Milan provincial deputation; engineer E. Marchesi, president of the Unione italiana fabbriche di automobili; A. Mercanti from the Società incremento automobilismo e Sport; the Hon. A. Nosedà Como, municipality council member; P. Ostali; engineer P. Puricelli; Dr. P. Pirelli; E. Reinach; Senator A. Salmoiraghi, president of the Milan Chamber of Commerce; Dr. A. Schiavi, City of Milan council member; G. Toeplitz from the Banca Commerciale Italiana (Comit); R. Ugoletti, director of Credito Italiano; engineer I. Vandone, director of the Istituto sperimentale stradale del Tci; the Hon. P.G. Venino; E. Vaccarossi; and U. Weiss.
45. Vandone, "Le 'Autostrade' da Milano ai laghi lombardi," 34–35.
46. See Luigi Vittorio Bertarelli, "Le autostrade Milano–Laghi. L'opera del Touring," *Le vie d'Italia* 1 (1923), 73–75, here 73–74.
47. Vandone, "Le 'Autostrade' da Milano ai laghi lombardi," 34.
48. See "Una grande iniziativa milanese. Una strada per automobili Milano–Laghi," *Il Popolo d'Italia*, 6 September 1922.
49. Carlo Mochi, "I trasporti," in *Annali dell'economia italiana 1923–1929* (Milano: Ipsoa, 1981), 177–218, here 177.
50. See Stefano Maggi, *Le ferrovie* (Bologna: Il Mulino, 2003), chapter 4.
51. Vandone, "Le 'Autostrade' da Milano ai laghi lombardi," 34.
52. Germà Bel, "The First Privatisation: Selling SOEs and Privatising Public Monopolies in Fascist Italy (1922–1925)," *Cambridge Journal of Economics* 35, no. 5 (2011), 937–956, here 939.
53. *Le autostrade da Milano ai Laghi*, 18.
54. Copy of the decree in Acs, Pcm, 1922, Ministero ll.pp.

55. Aldo Finzi, who was a companion of D'Annunzio on his flight to Vienna and was subsequently involved in the murder of Matteotti, "was elected under-secretary of the interior by Prime Minister Mussolini and in this role it was his task to manage the 'secret funds' for the financing of the press," Giuseppe Sircana, "Aldo Finzi," in *Dizionario biografico degli italiani, volume 48* (Roma: Istituto della enciclopedia italiana, 1997), available at http://www.treccani.it/enciclopedia/aldo-finzi_%28Dizionario_Biografico%29/, accessed on 31 March 2016. In the first months of 1923 he was implicated in corruption linked to the works for the direct rail line between Bologna and Florence (see "La direttissima Bologna–Firenze non sarà appaltata dallo Stato," *Corriere della sera*, 3 August 1923), though there is no archival evidence to prove similar activities in connection with the Milan–Lakes motorway.
56. The record of the meeting (see *Le autostrade da Milano ai Laghi*) does not report any discourse by Piero Puricelli, who rarely spoke in public. See also "La giornata dell'on. Finzi. La riunione per l'auto strada Milano–Laghi," *Corriere della sera*, 6 January 1923.
57. See "La giornata dell'on. Mussolini. La cerimonia per l'auto-strada a Lainate," *Corriere della sera*, 26 March 1923.
58. See *Le autostrade da Milano ai Laghi*, 20.
59. See *Atti del IV Convegno Nazionale Stradale promosso ed organizzato dal Tci. Perugia 25–28 giugno 1925. Atti del convegno* (Milano: Tci, 1926), 96.
60. See "Le cerimonie commemorative e inaugurali svoltesi domenica coll'intervento del Re," *Corriere della sera*, 23 September 1924 and Francesco Aimone Jelmoni, "Il 21 settembre 1924," 15.
61. The Milan–Lainate trunk was an exception, as the road plan was 10 meters wide in addition to the shoulders; see A. Mangarano and G. Pellizzi, "Les premières autoroutes réalisées en Italie/Italy's first Motorways," in *Aipcr/Piarc 1909–1969* (Paris: Aipcr/Piarc, 1970), 129–140, here 134.
62. At least until the reforms made in 1925 and 1926, in Italy every province established its own rules about the side of circulation, but it should be added that in the cities the trams circulated, like the trains, on the left, and therefore so did cars. The 1923 reform, applied within three years, homogenized the rule, making driving on the right side compulsory.
63. At that time even motorbikes were excluded; as on the Milan–Lakes, only motor vehicles with three wheels or more were admitted. See the "Regolamento per la circolazione sulle autostrade Milano–Laghi," approved by royal decree 1040 on 27 May 1926.
64. Federico Paolini, *Storia sociale dell'automobile in Italia* (Roma: Carocci, 2007), 27.
65. Puricelli, *Le autostrade e la Milano–Laghi*, 31.
66. *Ibid.*, 33.
67. Jelmoni, "Il 21 settembre 1924," 16.
68. See Vito Rocco, "La 'tassa' di pedaggio," in *Le autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 164–169, here 166 and table 3.
69. According to Jelmoni ("Il 21 settembre 1924," 19), above all referring to the first years of operation: "from time to time we happened to meet another motor vehicle of fearless travelers, and I cannot describe the wild waving we would then do, us and them, to greet each other and reciprocally demonstrate our great satisfaction at being on the motorway!"

70. Bruno Bolis, "I punti di accesso alle autostrade," *Le Strade* 2 (1955), 51–59, here 51.
71. Bruno Bolis, "Ancora in tema di autostrade, di camionabili, e di strade automobilistiche," *Le Strade* 3 (1954), 65–79, here 66.
72. Giuseppe Centolani, "Le tecnologie costruttive e le sovrastrutture," in *Le autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 138–151, here 142.
73. Shortly thereafter, Edmond Chiavari became the president of the Touring Club and, in 1929, vice president of PIARC; see Nuad, "Soixante ans de l'Aipcr/Sixty years of Piarc," 17.
74. Associazione internazionale permanente dei congressi della strada, *Quinto congresso internazionale della strada, Milano, 1926. Rendiconto dei lavori del congresso* (Rennes-Paris: Oberthur, 1927), speech by Edmond Chaix, 177.
75. *Ibid.*, speech by Édouard Michelin, 178.
76. For a more detailed description see Enrico Berbenni, "Paying for the First Italian Motorways (1923–1941)," in *Infrastructure Finance in Europe: Insights into the History of Water, Transport, and Telecommunications*, ed. Youssef Cassis, Giuseppe De Luca, and Massimo Florio (Oxford: Oxford University Press, 2016), 193–217.
77. Bruno Acquaviva, "La prima legislazione autostradale," in *Autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 26–29, here 27.
78. See "Sintesi dei dati tecnico-costruttivi ed avanzamento lavori delle 'autostrade della prima generazione,'" in *Le autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 137.
79. Giovanni Da Rios, "Le prime autostrade italiane," *La rivista della strada* 390 (1974), 1–24, here 9.
80. See the cases of the Florence–Sea (Bortolotti and De Luca, *Fascismo e autostrade*), the Turin–Milan (discussed further in chapter 5), and the Padua–Venice (Giovanni Da Rios and Savino Rinelli, "Autostrada Venezia–Padova," in *Le autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 112–119).