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Degree: M.A. GEOGRAPHY

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THE DEVELOPMENT OF OTAGO'S MAIN ROAD NETWORK

by

Neill R. Baker

Being a thesis presented to the University of Otago
in partial fulfilment of the requirements for the
Degree of Master of Arts in Geography.

1969
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Sincere gratitude is expressed to the many persons without whose help and encouragement this thesis would not have been possible. While special thanks is due to my supervisor, Dr. R.P. Hargreaves, and Mr. Hugh Kidd, Geography Department, University of Otago, for their guidance and helpful criticism, the constant interest and support of my parents was invaluable.
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Otago is indebted to a large number of men and women who have, by their writing, preserved for posterity much of her romantic past, and yet one aspect of this story remains unrecorded. This is a survey of the main roads of the region which are, of all facilities, surely the most necessary for the prosperity of a settlement. Without roads the sheepmen could not have developed their land so successfully nor marketed the produce of their flocks so easily; the prospectors of the 1860's could not have followed their fortunes to and from the scattered goldfields nor the factories sent their manufactured goods to rural markets. Condliffe states that "to recount the salient features of road . . . construction would be to sketch the economic history of New Zealand", which is indeed the case with Otago where the development of the main road network is inextricably involved in the economic fortunes of the region. Road making in the first five years of the settlement was completely overshadowed by that carried out under the first Provincial Council, while the major work was achieved as a result of the increased money available consequent on the goldrushes, the expansion of both primary and secondary industry and the Vogel Scheme of borrowing and public works. A richer Provincial coffer

in the latter phases meant that tremendous progress was made until finally the network was complete, it not merely joining together the main centres of population throughout Otago but linking the region with its neighbours, and making the South Island one.

The Otago region is generally defined as being that block of land which lies between the Clutha and Waitaki Rivers and which penetrates inland as far as the Southern Alps. This definition is used in the following work although Queenstown has been considered as lying within the approximate boundaries. No mention has been made of the Pass between Otago and the West Coast mainly because this link was made at a much later date than the regional main road system and is excellently recorded in John Pascoe's book *The Haast is in South Westland*. This thesis is concerned only with the period to 1876, for after the abolition of provincialism the basic administrative structure and general direction of today's main roads were already established. Within the space of the following pages it is hoped that a greater appreciation of the influences on and importance of Otago's main roads will be conveyed to the reader. They have been called the life blood of every community, and although a genuine attempt has been made to record all the factors involved
in their early history no doubt much still remains unwritten. However, the writer hopes that by his efforts a small contribution to the very colourful history of Otago has been made.
CHAPTER I

THE BEGINNINGS OF ROADING: 1846 – 1853

How often do motorists in Otago today climb into their gleaming, chrome-trimmed cars and either head off into "Central" for a holiday or, come the weekend, go beyond the City limits for an afternoon's drive? Today this is common practice and yet how often do these travellers stop for a moment to consider the roads along which they are speeding? Indeed as one drives leisurely over the miles and miles of tarsealed highway it is most difficult to visualize the state of these roads and the consequent hardships of travel over 100 years ago. In those times it took a day to reach the Taieri and three days to arrive at Milton in a crude wooden bullock-drawn vehicle that swayed, lurched and tossed its way along the dirt roads like a small vessel on a high sea. In fact it is on record that a family took nine days to reach the Taieri River in 1860, while a single traveller took three weeks, going south from Dunedin, to cover 70 miles.

The struggle to link its dispersed settlements with good overland routes forms one of the main sagas of Otago's early history. Indeed the progress of any district is intimately connected with the gradual improvement of its

(1) R. Fulton, Medical Practice in Otago and Southland in the Early Days, 1922, p.89.
transport and means of communication and in this respect the history of Otago provides no exception.

**The Maori Tracks**

Years before the white man invaded Otago this southern region of the Middle Island seems to have supported a scattered and somewhat migratory population of Maoris and whether in search of food or on intertribal visits, for such things as funerals, weddings and even warfare, it was the constant treading of their bare feet that made the first trails in Otago. (Fig.1-1) These native tracks, where not following natural highways such as ridges and spurs, riverbeds and beaches, remained mainly coastal and tended to meander, occasionally amongst dense bush or forest, and were always narrow.

As a result they were frequently blocked by fallen trees and being only trampled grass were easily obliterated, and although easily detected by the practiced eye of the native, a European had difficulty in travelling these paths. The Reverend John Christie points out -

---

(3) The wide distribution of Maori names in Otago has in itself been used as eloquent testimony to the wanderings of these people.

(4) Factors such as walking single file so as not to tempt speech and consequently frighten game have been given for the tracks being narrow.
A ride in this path was a rapid series of watchful duckings of the head, energetic and hasty dodgings to right and left of the body, ... and not altogether without danger and suffering. (5)

These difficulties were made even more acute with the influence of the whalers on the Maoris. Attracted by the whiteman's tobacco, rum and other trade, the Maoris acquired a more settled character, particularly with their kaikas (villages) at Waikouaiti, Otakau (Otago Harbour) O-Moua (Henley) and Murikauhaka (Port Molyneux) and although overland routes did exist they soon fell into disrepair as preference was given to travel on their "water-highways." Therefore, although some contemporary sources do mention narrow tracks in the vicinity they played only a minor role in the early development of roads in Otago. Soon wider roads were being constructed and if these followed the original Maori tracks this seems to have been more good luck than good management in that both peoples tended to choose the shortest and most convenient route between two points. The true development of Otago's main roadways dates therefore from the arrival of the first European settlers in 1848.


(6) Particularly the Ocean along with the Taieri River, Lakes Waihola, Tuakitoto and Kaitangata, and the Waitaki and Clutha Rivers to the interior.
Fig. 1-1  Principal Maori Tracks in Otago (Adapted from A.H. McIntosh, *The History of Otago*, 1949, (opp. p.40.))
The Otago Settlement and Early Environment

Surveyed by Frederick Tuckett and approved by Colonel E.G. Wakefield, agent general of the New Zealand Company, the Otago "Block", which comprised a coastal strip of some 400,000 acres stretching from the Otago Harbour south to the Nuggets, was purchased from the Maoris for the sum of £2,400 ($4,800) in July 1844. Then in 1845 the Lay Association of the Free Church of Scotland, founded 16 May 1845, under the directorship of Captain William Cargill and the Reverend Thomas Burns, agreed to settle in Otago and immediately commenced the tasks of promoting emigrants and selling property. Apart from purchasing and surveying the land, conveying the emigrants and carrying out public works, which was reserved to the New Zealand Company, the Association, until its dissolution on 17 May 1853, watched over the interests of the Otago Settlement. Therefore this first period, approximately a decade of European activity in the Otago Region, 1844 - 53, is dominated by the Association, the New Zealand Company and, as will be shown, the settlers themselves.

The absence of roads was naturally enough a great handicap to those first arrivals on the "Philip Laing".

(7) They have been justly called the Moses and Aaron of the Otago Settlement,
and "John Wycliffe" in 1848. This was made particularly evident to those who ventured to walk from their anchorage up to their New Edinburgh site at the head of the Harbour and survey their new home. The eight to nine mile journey through dense undergrowth and over steep and rugged terrain made them very aware of the problems to be faced. Then on their arrival at the future town site, all that represented streets and roads were the lines and narrow indistinct tracks cut through the vegetation and across the swamps by the surveyors. Indeed those who know Dunedin only in its modern environment can have but a very imperfect conception of what the Dunedin of some 120 years ago was like.

It is not surprising to note that the first Europeans on arriving at Dunedin, and indeed for the first few years of the Settlement's existence, found little inducement to leave the neighbourhood of the town and proceed into the wild unexplored surrounds intersected by swift rivers along with impassable swamps and tangled trackless areas of native bush.

It is as yet, in fact, a terra incognita, a country of whose outline we know nothing further than a mere sketch, while of its interior we are entirely ignorant. (8)

There was plenty to be done within a smaller area, however, and all available energy was used in the immediate vicinity of the heart of the "Block" from where roads were to radiate and a Province be born. Dunedin was already established as the focal point for these developments.

Bell Hill, then a feature of much greater dimension, effectively divided the town site into two distinct parts with the northern portion, marshy and remote from the jetty, not having the same attraction for the early settlers as the neighbourhood of Princes, Rattray, Maclaggan, High and Stafford Streets. So it was in this latter locality that the infant town came into existence and remained more or less confined for a period. Sites were chosen especially along Princes Street, which was represented by two survey lines, 66 feet apart and almost two miles long. The street itself consisted of flax, grass, stumps, trees, creeks and bogs. But although the first consideration of the pioneer immigrants was the provision of living accommodation, roadmaking was soon proceeded with. It was quickly recognised that at no period of the settlers' progress were roads so essential to their convenience, almost to their existence, as when they first locate themselves in a new environment, and road-making became one of the most important of pioneering tasks.
However, there were many problems facing this early development. So great were the difficulties to be encountered that it is no wonder the pioneers hesitated and indeed feared to undertake the work of road making on anything like a large scale. Despite the fact that surveyor Charles Kettle had mapped out the lines of the roadways in an orderly, chessboard or parallelogram pattern, this had been done with complete disregard for the relief of the area and in reality was quite impracticable. McLintock claims, neither Kettle nor his assistants had the training or experience for such highly skilled work which the topographical complexity of the area made no easier. Physical features played a much more important role in determining future road lines over 100 years ago than they do today when whole mountains can be removed and wide valleys filled by modern earth moving equipment. In these early days the pick and spade were the sole tools of trade.

Already mentioned are the creeks and bogs, the vegetation cover and the difficulties imposed by Bell Hill, which was only a small protruding spur of a whole amphitheatre of hills that surround Dunedin to this day. But more important was the fact that at this stage these hills were clothed with a dense almost impenetrable forest
cover making a return trip to the town-belt a day's journey. Such difficulties rendered the construction of good roads a most expensive necessity.

However, money, especially such amounts as would enable the immediate formation of an efficient road network throughout the "Block", was not readily available in the infant settlement. Provision had been made in the special features of the scheme of the Otago settlement, to finance surveys, roads and the public works with one quarter of the revenue derived from the sale of lands. The "Fathers" of the settlement had indeed recognised the advantages of good roads and wanted to see established, as soon as possible, roads between the different parts of the "Block", converging on Dunedin and Port Chalmers as the principal outlets and inlets of the exports and imports of the settlement. But land sales were slow and finance lacking. The "sufficient price" proved too dear while the policy of "concentration and contiguity" of the settlement seems to have proved a handicap and restricted occupancy to the whole Otago block. It was under these circumstances therefore that the New Zealand Company, already faced with a minimum labour force and a rapidly...

rising financial deficit, began the work of constructing the first roads in the settlement, which were to become, in little over 30 years time, part of an efficiently run, well maintained, metalled regional network, traversing the length and breadth of Otago.

Road Works are Commenced

The first works to be put in hand were the formation of Princes and George Streets extending, respectively, to the south and north of the Octagon, situated at a central point in the future town plan and just to the north of Bell Hill. Princes Street took precedence as it was the road leading from the Jetty linked by the adjacent line of Jetty Street, and was therefore undoubtedly the "Main Road". Under bleak and uncomfortable conditions it was a humble band of labourers whom the New Zealand Company employed, "those heroes of the first winter" receiving only three shillings for a 12 hour day, who gave substance to the surveyor's lines and made these first roads through the dripping scrub and clinging mud. Indeed the task of turning all these theoretical lines into passable roads was arduous work, which was to furrow the brows and empty the pockets of future generations. There was needed, in fact, so much filling and walling, cutting and embanking, that one wonders whether one square yard of the surface of the inner city is still in
its original position. And yet it is only the development of the main roads which concerns this work as it was these that were to branch out and become an integral part of the Northern and Southern Main Trunk Roads which were to extend as far as Christchurch and Invercargill, respectively, in little more than 15 years time.

By late 1848 the Company had already turned its attention to extensions out from the Town. This development was proceeded with to such an extent that town dwellers often complained that improvements in Dunedin were suffering as a result of these "abortive attempts" at road making away from the town. So by 31 March 1849, the end of the settlements preliminary year, taking the Jetty as a starting place, a dray-road had been run the length of George Street to the head of North-East Valley, a distance of some three and a half miles, from whence a bridle track led over the hills to Port Chalmers. The whole journey, it was claimed, could easily be done within two hours on horseback. Secondly a very tortuous road, up past the cemetery in Arthur Street,

was being pushed out the two and a half miles to Halfway Bush, thus named as being halfway from Dunedin to the Taieri. However, the most important development was that of the route south along Princes Street, over the spur at Hillside and on up the Caversham Valley before descending steeply from Lookout Point into Kaikorai Valley and terminating at Green Island Bush a distance of some five miles. (Fig.1-2) But despite these rather encouraging developments and the fact that settlers were reported to be travelling over all these roads this could only have been in favourable conditions, as several portions of these roads were still subject to a certain degree of tidal encroachment and none were metalled. These so called roads were merely formed out of the soil and as thoroughfares for pedestrian, horse and bullock alike soon became, with a little rain, more like canals of liquid mud and clay.

they became a treacherous morass of mirey clay which merited for the settlement the name of Mud-Edin. (12)

During the winter months, May, June and July, the weather became even wetter and there were numerous reports of the "shockingly bad" state of the roads. In fact it

was claimed that "the loss of a boot might be the least penalty to be incurred in crossing the road", and that one had to make the best of one's way along the edges or through the adjoining flax and fern. Good drainage was urgently required. So while channeling and filling soon did away with many of the problems of the foreshore, the North East Valley section was being improved by the laying of flax-bundles along the roadway. One Winters day in 1849 the "Otago News" reported that the Company had employed one man to commence the task of draining the "Slough of Despond" in Princes Street. This work was complemented by the laying of metal up Jetty Street and along Princes Street to the Church-school on Bell Hill, giving one a dry footing. However, outside these boundaries the roads remained in a deplorable state and were only truly passable in the summer. Indeed at the end of 1849 one could say that Dunedin was the only settled part of all Otago. But it remains that by this date progress had already been made on road links towards the more remote parts of the "Block" and these developments will now be outlined in greater detail.

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(14) *Otago Journal*, Extracts from Letters of Settlers, 13 September, 1849, p.89.
(15) A.H. Reed, 1947, p.135.
The Southern Route

The year 1850 dawned with a certain air of well-being throughout the infant Settlement. Many of the initial doubts about the future of the Otago block had been put aside as the settlers watched their plans taking shape and looked forward to greater prosperity. By degrees the little village had acquired something of a character of permanency and despite the obvious handicaps, public works, particularly the building of roads, had progressed favourably.

This was especially so of the southern route via Caversham Valley and the Kaikorai flats, which, it was hoped, would soon become the first link in the projected chain of communications between Dunedin and the Molyneux, at the southern extremities of the "Block". Several of the first immigrants had not idly waited in Dunedin for roads to be formed to the country districts, but had proceeded to their holdings as best they could and as a result tracks were gradually beaten between the widely dispersed settler's homes. Such was the case in relation to the Taieri and the Tokomairiro Plains, where most of the first farm-holdings of the region were located. But this earlier expansion of roadways towards the south was

(16) Interchangeable with the Clutha in early usage.
due to other important factors besides these. Firstly, it was most apparent that due to the limited finance available but one road could be concentrated on and the important point to be considered was, whether this first main road was more needed between Dunedin and Port Chalmers or as a means of opening up the country in the rest of the "Block". The matter was settled by Captain Cargill when he pointed out that whereas a way to Port Chalmers was already available by water the funds at disposal would be best spent in opening up the country. As a result, in his report after the second year of the Settlement, Captain Cargill was able to state that the dray-road south had recently been pushed on past Green Island Bush, up an easy ascent over a spur of the Saddleback Hill and down onto the plain linking with the Taieri River. This link-up had been envisaged even at the planning stages of the Settlement with most people readily recognising the great facility inherent in the availability of these natural water-ways, and indeed the Maoris called the Taieri their "Highway". For example E.J. Wakefield

(17) Otago Journal, May, 1851, p.111.
said:-

Communication . . . is extremely easy.
Water carriage can be made use of . . .
to the head of the Waihola Lake. A good
road may be made without much expense from
there to Rangitoto. A short portage
thence to Kaitangata Lake and to the Clutha
River. (18)

and several years later William Fox wrote:-

There is already water carriage through a
great part of the district and ultimately
it will all be connected with the greatest
ease by a canal, of which three-fourths
have been formed by nature. (19)

With this in mind therefore it is easier to understand
why the road was hastily developed to the nearest point
of navigation on the Taieri; some 15 miles from Dunedin,
from whence easy water carriage existed via the Taieri
River and Lake Waihola. Thus was opened communication
between Queensferry North at Scrogg's Creek, near
Greytown (Allanton), and Queensferry South at the head
of Lake Waihola near the small township of Clarendon,
some 28 miles from Dunedin - although no canals were
built! (Fig. 1-2)

This is probably some testimony to the good progress
made by roading. Already by the end of the second

(18) [E. J. Wakefield] *Handbook for New Zealand*, 1848,
pp. 303 - 306.

year the road had been pushed on along the left bank of the Taieri River from the small village at the boat-landing, in the form of a bridle-track. After some nine miles one reached the native village situated where the Taieri swings towards the sea through a narrow steep-sided gorge. Here a crossing was necessary after-which the road carried forward towards the town site of Waihola from whence, it was optimistically pointed out, no natural obstacle existed through to Tokomairiro or even the Clutha -

A very moderate outlay would suffice to make a passable road from Dunedin to the Clutha, running through all the country districts and opening each of them up. (21)

Indeed by the 1850s the track to Tokomairiro, after leaving the natural gorge which led from Horseshoe Bush at the head of Lake Waihola, turned left at the start of the plain, away from the present road and skirted the bordering hills mostly through flax and scrub, and any part that was beaten into a pathway soon became a quagmire. (22)

(20) Otago Journal, May 1851, p.111.
(22) Today known as the back road to Fairfax, which was originally laid off as the government township. R. Fulton, 1922, p.173. (Fig.1-2)
The Otago Block and the Main Southern Routes,

Inset:
1 Jetty
2 Bell Hill
3 Octagon
4 George St
5 North East Valley
6 Halfway Bush
7 Macleggan St
8 Stafford St
9 Princes St
10 Lookout Point
This road emerged onto the plain near Clarksville from where the 1849 "Handbook for Otago" gave a description of three rather vague tracks leading south to the Clutha district, the latter of which was the most important. So it was now obvious to settlers that the passage for flocks and herds was opened for the whole length of the Otago block, from Port Chalmers to the Molyneux, and it was not long before the movement of stock into Otago gave recognition to the great importance of progressing further with overland communications. Although competition came from the common practice of taking stock by ship to points of access along the coast, where they were then landed and driven inland, the importance of roading was apparent to all. Good roads came after food, clothing and shelter and it was the object of these initiatory

(23) (1) "One from the lower end of the plain leads along a surveyor's line, over several ranges of high grounds, to the Tuakitota Lake.

(2) diverging from the Plain, follows the bed of a narrow valley through the eastern range of hills for about a couple of miles, when it strikes across the hills in the direction of . . . Kaitangata, on the Matou branch of the Molineux river,

(3) The third, or horse track, ascends, after the Tokomairiro river is forded, a range of hills, and follows the ridges of the different chains in as direct a line as possible. This track is dry and easily travelled . . . The other two are swampy in places and are only suited for foot travellers." p. [2]
operations to connect, as far as possible, the opening of the country for future immigrants with the immediate wants of present settlers.

Problems and Slow Progress

However, just as the settlement was showing encouraging signs of progress and roads were being laid off to the rural districts of the "Block" in grand style, the Company ceased its activities. On 5 July 1850, the New Zealand Company, faced by an increasing financial burden, was forced to abandon their settlement in Otago and to leave her to rely wholly on her own resources and the energy of her colonists. It had been long recognised that no aid could be looked for from the Governor, who was a determined opponent of the "class" settlement because it was independent of his autocratic rule. Indeed, the policy of the Government towards the southern settlement seems to have been one of "studied neglect", except for appointments such as justices of the peace and an unnecessary judge's court, which were regarded by the Otago public as extravagant expenditure of public money. So by late 1850 there was every element to create stagnation.

(25) ibid. Mr Justice Stephen was appointed Judge in July 1850, on a salary of £300 per annum.
Already abandoned by the Company Otago faced further financial pressure and could expect neither sympathy nor assistance from the Governor. There was a lack of suitable immigrants, especially those with capital, and a consequent dearth of agricultural land sales. This further added to the already existing lack of income to carry on very necessary improvements in the shape of public works, especially the continued development of overland communications. Therefore the affairs of the infant settlement at this stage were not very encouraging.

As a result of these factors most of the roads already built fell into disrepair and a letter dated 1 March 1851, to the Editor of "The Otago Witness", stated -

Roads can as yet scarcely be said to exist in any part of the Block which I have seen. Tracks have indeed been marked out where it is intended roads should be, and some portions of those around Dunedin have been made serviceable... But as to good roads, as these words are understood in Britain, there are none;... (28)

(28) Quoted by Wm. Nicolson, late Minister of the London Wall, in Otago, Edinburgh [1851?]
Pamphlets 29/17, p.3, Du:hö.
While in the same year William Fox, also wrote -

Overland communication between the settlements, by made roads is entirely wanting. (27)

So the settlers, facing the consequent difficulties of travelling from place to place, coupled with their pioneering zeal to always improve their lot, adopted a self-reliant policy. They were neither daunted nor discouraged by the difficulties facing them as they knuckled down to the task before them and looked forward to better times. If there was drainage to be done, a cutting to be made, even a road line to make passable there were many to contribute labour, others material and a few that scarce commodity, money. They braced themselves to suffer hardships and to do their duty, and they did it well. A letter dated June 1851, from a settler in Upper Wakari states that "a road from Dunedin almost to the back door has been built by the settlers following the inconvenience for want of a road . . . .", and although contemporary accounts vary considerably it is apparent that there were several other occasions on which the progress of the road lines

(27) W. Fox, 1851, p.141.
had to rest solely on the enterprise of the settlers. (29) This was especially so of the outlying districts as the founders and early leaders of the Settlement, being mainly townsmen themselves, did not realise that the town could only develop as agriculture began to flourish. Although by 1853 it was true the boundaries of the "Block" were no longer the limits of the Otago Settlement - apart perhaps for the Waikouaiti district - agriculture was making slow headway. Too much of the small amount of money available for public works was spent in the neighbourhood of Dunedin and well-developed roads did not extend more than a few miles from the core of the dispersed settlement. But just as the policy whereby almost all public works rested upon the shoulders of the settlers themselves was changed in 1853, so too were the rural districts opened up and the foundations of a period of progress and prosperity for Otago laid. This came as a result of the establishment of the Province of Otago by authority of the 1852

(29) R. Fulton, 1922, p.43; tells of a rather novel method of providing improvement to the roads in the Clutha district. "The names of the different creeks to be bridged and culverts to be constructed were put into a hat, and the names of the settlers into another, and by this means, with a number of blanks, it was arranged that those settlers who drew blanks had to give their assistance to those who drew the heaviest bridges or the worst stretches of roads and culverts".
Constitution Act. The Association faced by apathy, both at home and in Otago, had finally disbanded, and with the election of a Superintendent and a Provincial Council a new era in the roading of Otago was heralded in.
CHAPTER 2

PROVINCIALISM AND MORE RAPID PROGRESS: 1853 - 1858

The Provincial Council Era, which began in late 1853 and lasted until the Abolition of the Provinces in 1876, was to prove a tremendously beneficial period for Otago. The Council at first numbered nine, but eventually grew to over 40 and these men, like their head, the Superintendent, were elected by open voting directly by the people. Captain William Cargill had deservedly won the confidence and affectionate respect of the settlers and the crowning act which showed their was when they elected him attachment to him unopposed as Otago’s first Superintendent in 1855 and again in 1855 to the same office which he held until his retirement in January 1860. The first Council, with three members elected for the Town and six for the Country District, included such capable men as James Macandrew, John Harris and Edward McGlashan to mention only three.

The new institution had under its control a very wide field of administration such as Police, Education, Immigration, Public Works and many other important functions of government. This scope of Provincial authority was still further enlarged when Land Regulations, the selling and disposal of Crown Lands and
the appropriation of the Land Fund were handed over to the Provinces.

**Land Sales Provide a Boost**

Just prior to Cargill's first election on 10 September 1853, and the creation of provincial government in Otago, all the waste lands surrounding the existing Settlement were opened up for sale at the low price of five to ten shillings (50 cents to one dollar) an acre. Grey's General Land Regulations, were considered a somewhat arbitrary proceeding by those in Otago who, up until this time, had controlled their own land sales and indeed were still independent of the Governor. Many considered that this would undermine the main source of capital for the "Block" and further impede its progress, as who would purchase land within its bounds at two pounds (four dollars) an acre when it could be purchased in adjacent districts for only a fourth and even an eighth of this price. However, attitudes soon changed when firstly the Association and soon after the Provincial Council realised that such a step was the shot-in-the-arm that Otago required. This Act took a major stride towards remedying the slow and slow land sales and consequently the dwindling finances for promoting immigrants and public works. It was to
attract a new wave of pioneers to the district, to open up new lands for agricultural development and altogether begin a new prosperity in the Province which was reflected in the more vigorous public works policy undertaken.

Needless to say the land question was the principal matter to engage the early attention of the Councillors. But Superintendent Cargill had seen the progress of the Otago Settlement since 1848 and knew well the prime position public works, particularly roading, had to take in the proceedings of the first Provincial Council.

It is our duty to do all that we can for the public good . . . . The first and urgent matter for attention is the state of our roads. There could hardly perhaps be a district with fewer difficulties for practicable thoroughfares than the Otago block. I should therefore propose in the first place and under the present emergency, that advantage be taken of the exertions now being made by the settlers in various parts of the block, and to assist them with sums of money, somewhat in proportion to their own voluntary contributions, and their judicious application of them. (1)

(1) Opening address of His Honour The Superintendent to the first Provincial Council, 30 December, 1853. In Votes and Proceedings, (V & P's.), Otago Provincial Council (O.P.C.), Vol. 1, 1853 - 57, Session 1, Appendix, p. 19.
As a result the first session of the Otago Provincial Council granted £200 ($400) for roads to assist the settlers in their own voluntary efforts to improve them before winter with a further £100 ($200) being appropriated later in 1854. In fact a total amount of £298.18.5 ($597.85) was spent on "Roads and Surveys" in the first year of Provincial activities ending 30 September, 1854, and in the following year £396.3.0 ($792.30).

Provision was also made whereby the Council guaranteed to match any amount of money raised by settlers in any area of Otago for the development of roads in that vicinity. However, this still meant that not everyone was obliged to contribute to these very necessary roading developments. So by the Public Roads Ordinance, 1854, provision was made for the making and maintaining of all roads through finance obtained by rating, based on land ownership. This was either payable through the pocket (not to exceed 2/6 in the pound, -25c in two dollars) or by their own hard labour. Two years later, in 1856, this measure was repealed by a new much more elaborate Roads Ordinance which in short, classified roads into Main and

(2) V. & P's., Sess. 1, app. p. 104.
(3) Branch lines, and created a General Roads Board and nine District Boards, which had the power to close useless roads, make new roads and widen existing roads. The provincial government, however, retained control of the main roads, while 1855 had seen the introduction of a Town Board to which control of Dunedin's streets was handed by the Dunedin Roads and Streets Ordinance of the same year.

1856 - A Memorable Year

But despite the introduction of these various measures, which resulted in the expenditure of larger amounts of labour and money on road development, the Province was still faced by the tremendously costly and clumsy task of attempting to force a theoretical plan of road lines upon a locality, the topographical features of which, presented difficulties that could only be overcome by exceptional skill and imagination.

"The natural difficulties of the country made it impossible for Otago ever to compete in the matter of internal communication with the neighbouring Province of Canterbury" (4) for example, and when one realises

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(3) Main roads were to be not less than 60 feet wide.
that it was the proposed site at Port Cooper (Lyttelton) that Tuckett rejected in favour of Otago, one can further understand the tremendous importance placed upon the natural waterways existing in the "Block" by the founders of the settlement. Nevertheless it was the development of roads that now had to be concentrated on and although Kettle attempted to obviate the difficulty as early as January 1849, when he wrote on his official map -

A right of road is reserved through any of the suburban sections for the purpose of making any deviation from the lines of road laid down on the map which may hereafter be found necessary (5) -

It remains that when the Provincial Era Began the problem of the impracticability of many of the roadlines still existed. Whereas the roads should have followed the natural contours many cut across steep gullies and ascended difficult inclines and travellers were often forced to deviate from the surveyed lines. Such difficulties were further enhanced when in December 1856 a Land Act opened up waste lands in the original Otago block for 10/- (\$1) an acre provided improvements totalling at least 30/- (\$3)

(5) Flotsam and Jetsom, 1/24, Du:Ho.
an acre were made in the following three years. It also set aside some 600,000 acres outside the "Block" which was to be sold at 10/- ($1) an acre in sections of not less than 2,000 acres and without any conditions. Consequently when land was fenced according to plan engineers often found roadlines traversing very difficult parts of the country, even river beds, while the more practicable overland routes were often enclosed. J.T. Thomson in a letter to Captain Cargill dated 26 September 1856, points out that there were several instances of this between the Taieri and the Clutha districts. But indeed the Superintendent well knew this difficulty and that it was becoming daily more onerous as lands were being sold and occupied. In his opening address to the first Provincial Council Cargill had proposed that a surveyor be appointed to reappraise and re-survey Otago's road lines — assisted in each locality by persons, the most competent among the colonists, and from whose reports, with plans and estimates of expenses, the Executive and Council would find much to guide their proceedings, as limited by means at their disposal. (7)

Such a move was made in 1856 when Chief Surveyor, J.T. Thomson took charge of the Survey Department of the Otago Province. His work was not only aided by the 1856 Roads Ordinance, but also by the Amendment Ordinance of the same year which reserved a right of road through all lands with provision being made for compensation to be paid for losses and any damages incurred. So as roads branched out further from the core of the Settlement a new semblance of order was introduced to this process as they more and more followed the most natural routeways.

The Main South Road

Meanwhile there was trouble of a new kind closer to Dunedin, where great controversy had developed over the choice of route taken by the Main South Road. Hitherto, this road had been regarded as that which ran, as previously described, by way of Caversham and Lookout Point. But the swamp section about the Market Reserve and the Oval was difficult and some members of the Board now had other routes in mind. Most favoured the development of the Rattray - Maclaggan Street line, which was at this time the most populous area of Dunedin, then up The Serpentine and, what is today, Hawthorn Avenue before turning east,
towards the Coast, along the crest of the main ridge behind the town and joining the existing route at Lookout Point. Others favoured the steeper but, what they considered, the more easily developed and most convenient route (it had the added advantage of being the most direct line from the Jetty) via Stafford Street and the leading ridge as the best line for the Main South Road. However, it was the Superintendent and his Council, who had made their position quite clear earlier on when they had granted £1,000 ($2,000) for maintaining, improving and repairing *main roads* (9) and not for making new ones, who had the final say. The Board, faced by ever increasing financial pressures, finally succumbed to the Provincial Council's declaration that it would finance the making of a good road from the Jetty to Caversham rise, and the Main South Road had therefore been retained as the original route south. (Figs. 1-2 & 2-1)

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(8) This route received most of its support from Macandrew whose store was strategically situated at the foot of Stafford St. Interesting also is the fact that Cargill's Hillside property was adjacent to the Caversham route.

Fig. 2-1 Cross-section showing the gradients of the "battle-of-the-routes" roads south from Dunedin 1855 (adapted from Du:H0 V385/cba).
PLATE I  Looking South Along Princes Street

PLATE II  Early Maclaggan Street
With the "battle of the routes" ended the Council and the Board could now turn their attention to the important task of reducing the steep ascent of Bell Hill and thus open the link between the North and South Main Roads so as to create a tolerable passage from one end of the town to the other for wheeled traffic for the first time. The word "passage" is used intentionally, as the first cutting, completed in 1858, was very narrow and left the accesses to adjacent streets and buildings high above the new level. However, it remains that by this stage the link had been completed, and while the northern and southern road lines continued to branch out further and further from Dunedin, progress at their very hub had been of equal importance.

The year 1858 was one of particular importance in the progress of the main South Road. This road had appeared in the proceedings of the Provincial Council as early as 1854 with a appropriation of £200 ($400) being made for the development of the first section through Green Island Bush to the Taieri Ferry, near Henley. The following year had seen the first overland Mail run of any consequence in Otago begun between Dunedin and the Clutha when "Jock" Graham began a weekly
pack-horse service to and from the Molyneux. Progress was steady and whereas in 1853 travel to the Clutha was very difficult without an experienced guide, by 1859 a good dray road as far as Tokomairiro had been completed, while a well-marked dray track made the final connection with the Molyneux. The whole trip generally took three days to complete, provided the weather was favourable. Henley, some 22 miles from Dunedin, was reached on the first day, a further 14 miles to Tokomairiro on the next, while the third day—the most adventurous day's journey—completed the 51 mile journey. In fact, so well was the forming of the south road pushed on by 1858 that a stage-coach began a regular run along the 36 miles between Dunedin and Tokomairiro. So while the development of the Main South Road was pre-eminent, and the 1858 Provincial Council Road Appropriations for this section totalled almost £8,000 (US$16,000), the development of the Main North Road was also progressing favourably.

(10) T.M. Hocken, 1898, p.150.

(11) The Cyclopaedia of New Zealand, 1905, p.44, states that this service was established from Dunedin to the Clutha. But taking McIndoe, 1878, and Vogel, 1875, p.5 and p.94 respectively, as more reliable sources, along with the numerous reports on the state of the Milton to Clutha road at this date, the service could not have been regular.
Roadlinks Northwards.

North Otago was the oldest established area of the recently formed Otago block. It was in 1839 that "Johnny" Jones founded the settlement of Waikouaiti and although by 1844 it has been suggested that it was probably the most enterprising and thriving settlement in New Zealand, by 1848 it had certainly entered a period of stagnation. For a time the arrival of the first settlers at Dunedin provided a new source of income for the small northern community in that agricultural products were sent south to market. However, despite this early development and this reasonably lucrative contact with Dunedin, it was several years before any recognisable road towards Waikouaiti was proceeded with.

The first step undertaken in this direction was a road between Dunedin and Port Chalmers, which had already established itself as the deep-water port of Otago. This road did not wind its way along the bank of the inner harbour as it does today but took a more circuitous route up to the head of North East Valley where it gradually ascended to the lowest point on the

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(12) Not the original Waikouaiti which was situated at the mouth of the Merton (Waikouaiti) River and today is called Karitane.
linking ridge between the summits of Signal Hill and the insuperable obstacle of Mount Cargill before swinging back towards the harbour and descending towards Port Chalmers. However, this road was not used by a very high density of traffic during the fifties as most preferred to bring goods the six or seven miles to Dunedin by boat, which, although dependent on the tide, was both more reliable and cheaper than the nine mile overland route, which was very narrow, steep and muddy. Steamer was also the main means of communication with the roadsteads and ports of entry further north —

the price of road development was much dearer than the development of good shipping services and indeed more than the Provincial Council treasuries could afford. (13)

But the service was most irregular, it being dependent upon the weather and tides, while damage and waste was common it being necessary to transfer goods to smaller boats to facilitate easier landing. Consequently, by the mid-fifties roads had been pushed towards these isolated settlements.

There were two tracks, both of which bypassed "the

(13) F. Fuller, Five Years Residence in New Zealand, 1859, p.225.
frowning crest of Cargill", that forest clad,
precipitous mountain to the north of Dunedin which
up until then had proved an unyielding obstacle that
barred approach to the town from that direction.
Further obstacles such as the steep ascent of Bell Hill,
the crossing of the Leith Stream and the swampy
conditions of much of North Dunedin, had been
minimised by crude cutting, bridging and draining.

The first road that linked Dunedin with the pockets
of settlement in North Otago, branched off the original
route to Port Chalmers, at what is still known as
"Upper Junction", and wound its way down to Blueskin
Bay (Waitati). (Fig.2-2) This road was cut through
bush and tended to be both steep and slippery -

The track was often a mere trough of sludge
a foot deep, with roots for thwarts. The
pedestrian progressed by a series of jumps,
keeping one foot on either side of the
trough. This was very tiring, and an
occasional slip inflicted mental and
spiritual damage. (15)

(14) "The whole of the North end of the town was more
or less swamp . . . and so bad were the roads
that persons often fell into trenches, ditches
or holes . . . and cases of drowning were
comparatively common".
(15) The Rev. Wm. Kirk, in A. Eccles & A.H. Reed,
The alternative route, which largely owed its development to "Johnny" Jones, who used to follow it on his weekly visits between Dunedin and Waikouaiti, was largely bush free. As a result "The Snowy Mountain Track", as it was commonly referred to, became the most popular "road" northwards, especially as the regular guidance of the postman, who began a fortnightly mail service to Goodwood in 1855, and of Jones himself, was available to travellers. This track left Dunedin by way of Battray Street, through the Town Belt into Kaikorai Valley and up to Halfway Bush, thus dodging some of the more major hazards to the north of the township, before it ascended Flagstaff and followed a low leading ridge, via the "Clump o' Trees and the Razorback", to Cherry Farm and Waikouaiti from where one could follow an indistinct track to Palmerston and Goodwood. (Fig.2-2) Parts of this old track are still discernable today and even from the nature of the country it traversed one can only imagine the tremendous hardships travellers faced just over 100 years ago. This is without considering the possibility of attacks from wild pigs, sudden blanketings of thick fog and

(17) Jones came to Dunedin to live in 1854.
(18) Snowy Mountain original name for Swampy Hill.
Fig. 2-2  The Main Northern Routes 1855
heavy driving snow falls, to which the area was subject. Indeed journey overland to the North, up until the middle of the 1850s, was undertaken only at the risk of losing one's life. Some progress had also been made on a track as far as Oamaru, but it was vague, indeterminate and lacked bridges, with travellers preferring to follow the beaches for a good part of the way or to go by boat. Despite the fact that the Provincial Council had already attempted to make passage less difficult by marking parts of the track with conical-shaped sod mounds and snow-poles, about 50 yards apart, and by erecting a small hut for those overtaken by storm or mist, it was not until 1858 that it entertained serious proposals for developing a good north road. Once again progress closest to Dunedin dominated proceedings with £2,500 ($5,000) being appropriated for a metalled road to the head of North East Valley. The Council now obviously recognised this as the main route of the future, and indeed it is only in recent years that this road has been superseded by the new Northern Motorway. At the same time only £400 ($800) and £500 ($1,000) was appropriated for the development of

(18) Rev. J. Christie, 1929, p. 81, speaks of skeletons being found in the neighbourhood of this old road while other travellers vanished without any trace at all.
a "metalled horse-track" to Blueskin Bay and a "horse-track" to Oamaru, respectively. However, it was with the development of a good road as far as Waikouaiti that the Provincial Council was mainly concerned, as it was at this stage also that routes to the Interior were being considered and Waikouaiti was second only to Oamaru as a centre from which to construct northern-interior branches.

**Interest in the Interior**

Interest in the vast tracts of land available for settlement and agricultural development in the interior of Otago, had been aroused much earlier on by favourable reports from such pioneer farmers and travellers as Teschemaker, Rich, Schmidt, Valpy, Mantell and Chalmers, but it was not until Grey's Land Regulations of 1853, that the concentrated settlement began to disperse and, whereas the Association's strenuous efforts to sell land and attract capital had met with but little success, this move did just the opposite. Its progress was accelerated by the opening up of further large areas of land at reduced prices under the Waste Lands Regulations of 1856. "A raging gluttony marked the appetite of the newly arrived
sheepmen", and by 1858 holdings stretching right back to the inferior grazing lands of the mountainous Lakes District had been "swallowed up". So whereas in 1854 the population of Otago was only about 2,400, with some 2,000 of these in the original "Block", by 1859, aided by a vigorous provincial immigration policy, this had increased to 8,899 souls, of whom only 2,262, less than double 1854's total (1,200), were in Dunedin and its immediate suburbs. A similar rise also took place in Otago's stock numbers with the sheep total jumping from 70,000 in 1854 to nearly half-a-million by 1859. In addition a wool export total of 5,000 lbs. and a grain export total of 1,000 bushels in 1853, helped by an increased market with the large numbers in the Australian gold fields, had risen to 900,862 lbs. and 61,000 bushels respectively, by 1859.

As a result of this rapid progress in the hinterland it became apparent to the authorities that

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the necessity for adequate roading was most urgent. Despite the fact that the work of opening up the Interior by the sheep farmers was most valuable, it possessed the serious disadvantages of being both haphazard and unscientific, and it was not until J.T. Thomson took charge of the Survey Department in 1856 that some order was established. Then soon after, as Chief Engineer of the Province in charge of roading, it was Thomson who recognised the great importance of developing roads to these new districts.

Without improvement to our internal communications, no lands, however rich, can be made valuable nor any returns extracted therefrom. [Now are] the Agricultural class ... without outlets for their products to find the means to support their aged or rear their little ones in comfort? or find means for the intellectual training of their rising generations? (21)

Meanwhile Superintendent Cargill and his Council, were also aware of this need for interior roadlines and in 1858 appropriated a third of £1,000 ($2,000) for the development of branch lines from Waikouaiti to the Manuherikia, from Oamaru to the Upper Waitaki, (and

from Invercargill to the Upper Mataura). But it remains that this was only a very small portion of the total Provincial Council Road Appropriation and it was to take a much more dynamic event before greater consideration was given to the question of interior road lines and larger amounts were voted for their construction.

However, by the end of 1858, only after a little more than five years of provincial government and a decade of existence, one can see that the Otago Settlement gave evidence of great progress. Whereas up to 1853, because of such factors as internal dissention, the policy of "concentration and contiguity" and the lack of capital and equipment, progress had been slow the following five years had been very productive. Now in every direction there were indications of life and energy where but a short time before all had been stillness and stagnation. This was nowhere more apparent than in the progress of Otago's roads.

**Early Modes of Transport**

So far overlooked in these earlier developments is the important influence the different modes of transport had on the roading progress of Otago.
Naturally enough, because of the rugged state of the country, the lack of ready capital, horses and good roads and, generally speaking, the difficulties of travel in the late forties and early fifties, walking, was at first, the most satisfactory way of getting about the country. Then as the settlement grew bridle tracks were developed between the township and outlying homesteads or even more distant townships. The common practice being, once again because of the bad state of the roads and cost of horses, to adopt a "ride and tie" method of travel. This was where two people would travel with the one horse, one riding ahead for a certain time before dismounting, tethering the horse and walking on, while the other walked to the horse, mounted and rode on past the first traveller, the process then being repeated. Both these means of travel were very slow especially when one had to fight his way through flax and fern, scrub and swamp. But they were also very important in developing the first overland tracks in the Province and often the introduction of a weekly or fortnightly mail service

(22) It is on record that a Tokomairiro settler on noticing a mouse in his home set out for Dunedin on foot to purchase a mouse-trap!
along these pack-tracks told of the break-down in isolation that had been achieved. However, many a tired and footsore traveller had cause to thank a sympathetic wagoner for a lift on his long journey and pride of place in this progress must be given to the bullock teams, which in most cases, formed the first crude roads in Otago. It was the "bullockies" who blazed the trails for those who followed and having a keen eye for the easiest route it is not surprising to note that the bullock tracks of those days marked the general direction of the roads today.

(23) It is somewhat remarkable how many of our present surveyed roads follow the old bullock-drivers' tracks. (24)

(25) Bullocks were not only cheaper they were also more easily transported from Australia, and more easily bred here. Their maintenance was much easier, the

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(23) Not only was it the "bullockies" who had a keen eye for the best route. It is told that one practice was to rub old fat in a lead-bullock's ears and place a bell around his neck. When the flies annoyed him he would shake his head and the bell would ring. Those following were thus able to trace the path taken and a route was established.


side of the road affording them an abundance of food, (therefore a long journey could be undertaken without fear of want - whereas with a horse it was necessary to carry oats) and they were hardier animals than the horse being more suited to the pioneer conditions. With their split hooves the bullocks did not slip readily and they could be employed in places where it was not safe to take a horse. Where there was no properly defined road, not even a bridle track as a guide, the bullock could force a new road through tangled scrub and swamp or over rough hills. Indeed the bullock team has been described as, "one of the finest pieces of natural machinery, for it could go anywhere and do anything when handled by a good driver". 

However, because of the state of the roads especially in the winter months, it was not uncommon for a bullock-dray to become bogged in the mud or stuck up on a hillside that proved too much for the tired team. As a result trips were regularly done in pairs so that "double-banking" could be used where necessary.

(26) E.G. Studholme, Te Waimate, 1940, p. 137.
The earliest conveyances drawn by the bullock teams were wooden sledges and, although soon replaced by wheeled vehicles, the sledge was used for many years in the more difficult districts of the back country for such jobs as extracting timber and carting construction materials.

The first wheeled vehicle to take to the road in Otago, was a cart which was pulled by one bullock along Princes and George Streets to the "Valley" and return, with a load of firewood, in 1851. But although this marked the beginning of wheeled traffic in Otago, it was not until several years later, that such vehicles became a common sight on the roads. Indeed the story is told of an early pioneer who retraced his steps for some 40 miles to his place of departure, to change his wheeled dray for a sledge because he had found it impossible to proceed any further with wheeled transport. However, it was not long before the sledge completely gave way to the dray which, although only two wheeled, could hold more

(28) A.H. Reed, 1947, p.209.
and was generally pulled by only two bullocks. But as the loads became larger and the distances became longer the dray, in turn, was superseded by the wagon which was drawn by teams of horses or bullocks, sometimes numbering as many as 16. This was particularly so with the transport of 20 to 30 bales of wool weighing some five to six tons from the large holdings of the Interior to the coast for export and return trips with goods for the rapidly expanding hinterland.

In those pioneering days speed was not of great importance, the main consideration being that the produce should reach its destination in safety, and it was the bullocks that originally best fulfilled this need. Although painfully slow, 15 to 20 miles being a good days journey, they were strong and patient animals seldom being overcome by the hazards of bad roads or no roads at all. It was the bullocks more than any other means of transport which had opened up the country and blazed the trails that
roadmakers were later to follow.

However, as the roads improved, teams of horses, which were faster and could stand up to the harder surfaces much better than the bullocks, became a much more common sight on Otago's roads. Also the bullocks had the added disadvantage of being very much more at the mercy of the weather than the horses. This may seem somewhat contradictory to statements made earlier but the fact was that the bullocks, being yoked and not harnessed like the horses, could become badly chafed during rain or snow, thus enforcing a halt.

The larger loads, such as wool and timber, were hauled by teams of sturdy horses known as draught horses which were generally of the Clydesdale breed. Carts and drays, on the other hand, were drawn by sturdy but somewhat smaller horses, as a rule, and

(29) "We have much to thank the early pioneers for in the roads we have today. The bullock waggons made these roads as they wound in and out amongst the hills. Sometimes they made an extra bend in the road, as the bullocks wandered off the track to take a nibble of grass.

The engineers had only to add a few more hairpin bends and lo! - the perfect roads we have today."

G. Ward, Hail Otago, (A history of the Province in a lighter vein), 1948, p.29.
PLATE V  Bullock Wagon

PLATE VI  Horses and Wagon

(Roughly formed roads called for such hardy means of transport both for personal and commercial use)
passenger vehicles by still lighter animals capable of trotting along at eight to ten miles an hour in front of a buggy or other conveyance.

Roading had already covered many miles in Otago and one was now able to travel by wheeled vehicle from the Waitaki River, at the northern boundary of the Province, to the Clutha River in the south, while the Interior, which was no longer a "terra incognita", had begun to be opened up by trunk roads. In fact so well had roading been developed by 1858 that J. Adam wrote -

a coach may be driven in some places for thirty miles without encountering an obstacle, (30)

which although somewhat of an exaggerated statement is surely testimony, by a contemporary writer, of the good progress that roading had already made.

(30) J. Adam, Description of the Otago Province, 1857, in Pamphlets 29/34, p.4, DunHo.
CHAPTER 3

SWIFT PROGRESS IN THE 1860s

That era in Otago's history when Captain William Cargill watched over the growth of the young settlement, "with patriarchal care and pride", came to an end in 1859. In October of that year the Provincial Council met for its eighth session, the last of the second Council, and the last with Cargill as Superintendent. Troubled by illness he was forced to announce his retirement, thus completing a period when the development of the roads and opening up of the country had occupied much energy and time.

However, 1860 was to witness the birth of a new and more vigorous Council under the leadership of Superintendent James Macandrew. Even on the hustings Macandrew had shown his desire for progress, when he claimed he would spend many thousands of pounds a year on public works, with overland communications, taking precedence. (1)

This was soon proved to be no reckless boast, as when the new Provincial Council met for the ninth

(1) T.M. Hocken, 1898, p.191.
session on 11 April 1860, a total of £6,000 ($12,000) was voted for the improvement of the Main South Road only as far as the Taieri Ferry near Henley. Similar sums had previously been the total appropriation to the Roads Department for all roads. Then when the new Council met for the third time in December 1860 the Superintendent continued to confirm his earlier promises of developing overland communications, when he proposed that "metalled main roads, with arteries penetrating throughout the Province in every direction, were to be constructed". Meanwhile some evidence of all these proposals was born out by the Superintendent's summary of roading expenditure already undertaken in the eight months ending 31 November 1860. (Table - 1)

Table 1: Roading Expenditure - 31 Mar. - 31 Nov. 1860.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Type</th>
<th>£.</th>
<th>s.</th>
<th>d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>South from Dunedin to Taieri Plain</td>
<td>Metal Road</td>
<td>1004</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot; Taieri Ferry</td>
<td>4691</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot; Tokomairiro</td>
<td>636</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot; Clutha</td>
<td>723</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>North from Dunedin to N.E. Valley</td>
<td>Metal Road</td>
<td>757</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot; Waikouaiti</td>
<td>2225</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot; Port Chalmers</td>
<td>820</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot; Camaru</td>
<td>159</td>
<td>12</td>
<td>10</td>
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<td></td>
<td></td>
<td><strong>£11021. 1. 5</strong></td>
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<tr>
<td></td>
<td></td>
<td>($22042.14)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) T.M. Hocken, 1898, p.195.

Therefore it was most apparent that in his first months of office Macandrew had worked very hard for the development of Otago with roads being laid off in all directions.

But, unfortunately, some of his more elaborate schemes had already entangled him in serious monetary difficulties and when an investigation of the Public Accounts showed there were large deficiencies, for which the Superintendent was responsible, he was dismissed from his post.

The vacancy caused by this unfortunate episode was filled by an election in May 1861 when Major Richardson became Superintendent. He was to hold office until 1863 when replaced by Mr J.H. Harris and although both were reasonably able and competent leaders, they had the difficult task of controlling the affairs of the Province during the very dynamic first years of the Goldrush Era.

The Goldrushes

Despite several earlier reports of gold in Otago, the "rushes" were not sparked off until the discovery of payable amounts of gold in the Tuapeka (Lawrence)
district by Gabriel Read in May 1861, and by August of the same year 2000 miners had flocked to "Gabriel's Gully". Ships of every description sailed in to Otago Harbour, and thousands of pedestrians along with hundreds of bullock and horse waggons, drays, carts and sleds, riders, pack-horses by the score, mules, hand-carts and even wheel-barrows, travelled daily along the roads. Englishmen, Irishmen, Scotsmen, Australians, Scandanavians, Germans, Frenchmen, Spaniards, Americans, Italians, Greeks and Chinamen, not to mention the thousands of New Zealanders all left their homes and made their way to the new Eldorado. Between July and December 1861 Otago's population rose from something under 13,000 to over 30,000. Then soon after some of the more intrepid prospectors had made new discoveries further inland and just over a year after the first "rush" a new diggings, approximately one mile below The Junction (Cromwell), on the Clutha River, began the "Dunstan Rush". This was followed in November - December 1862 by the Cardrona - Arrow - Wakatipu finds and a new influx of miners, who made their way to the western limits of the Province, took place. In 1864 the estimated population of Otago's
goldfields had reached a peak of some 16,000 persons and new townships such as Lawrence, Waitahuna, Roxburgh, Alexandra, Clyde, Cromwell, Arrovtown, and Queenstown, to mention only the most important, had been established, where previously there had been only tussock. Dunedin, in the same year, had a population as big as that of the country’s old and new capitals – Auckland and Wellington – put together. Gold had provided the dynamic factor necessary for growth. It was also to prove the revolutionary force that laid the true foundations of Otago’s modern highway network.

The progress of Otago had hitherto proceeded at a snail’s pace compared with the leaps and bounds it took as a result of the goldrushes. It is easy to understand that the sudden influx of population accompanied by a tremendous increase in the Province’s wealth, worked a great and immediate change in the Settlement, with the need for extensions and improvements becoming most urgent. Nowhere was this more obvious than in the progress of Otago’s roads. Indeed it is difficult to exaggerate the effect of the discovery of

gold upon the work of surveying and roadmaking, which was already progressing favourably at the beginning of the Golden Era. Where roads did not penetrate, the goldminers found their own routes to the newly discovered fields. But once established in a district they naturally demanded that roads should be immediately provided, so that transport might be made as easy as possible. As the Superintendent, Major Richardson, stated in his address dated 19 June, 1861 -

There is no department of Government in which a liberal expenditure is more justifiable than in that of opening out the communications between different parts of the Province, . . . and if the great trunk lines leading through the centres of population be chiefly attended to, and the immediate neighbourhood of such centres metallled, while dray tracks are freely opened out throughout the country, there is no doubt that even a profuse expenditure would meet with universal approbation; . . . (5)

However, there were many questions that remained unanswered and which restricted the undertaking of large scale developments in the early stages. Questions such as, how long would the goldfields last? Would the new townships remain? And which were the best routes?

Internal communications in all new countries must for a considerable period be a perplexing difficulty to the Government. In Otago this is especially the case. The rapidity with which the goldfields are extending their bounds, and the obstacles which the natural features of the country present, are such as to render the work of making roads . . . a work of time. (6)

Not only was the object to link the diggings to Dunedin by an efficient roading network but also to choose a route which would best serve the agricultural producers. Therefore it was quite clear that no road would have money expended on it until a detailed survey of all the possibilities and problems had been carried out. Moreover the newly attained wealth of the Provincial Treasury enabled the government to do just that. Good roads were not only acknowledged as a utility but as a necessity.

Golden Routes to the Tuapeka

In the beginning the most popular route to the first diggings at Lawrence was to follow the Main South Road to Milton before branching Westwards towards the mountains, on via Round Hill and Mount Stuart to Havelock (Waitahuna), then up and down the steep descent

(6) Daily Telegraph, 8 January, 1863, p. 2.
known as Breakneck before reaching the Tuapeka. (Fig. 3-1)
This road very closely followed the first part of the
Main Central Highway of today and in fact was the
approximate route followed by Gabriel Read himself.
But instead of traversing the valleys, which were
generally swampy and bush clad, this road, as with
most of the early roads, tended to stick to the ridges
and leading spurs, which usually made for dry but very
heavy going. As a result, it is not surprising to
note that the "water-highways", which had been
extensively canvassed by Macandrew and others, now
received a new emphasis. Travellers on the south road
frequently preferred to go by "coaster" up the Taieri
River to the head of Lake Waihola before joining the
road to Tokomairiro and inland to their destination.
This road could also be linked by vessel from Scrogg's
Creek and the Taieri River, which had the added
advantage of avoiding the often dangerous sandbar at
the Mouth of the latter. (Fig. 1-2) By taking the

(7) A shorter track could be taken by those on foot
or horseback. This turned right near Mount
Stuart and climbed a very steep ridge still
known as "The Bullock Track" then went down into
Manuka before climbing steeply again towards
Round Hill and Waitahuna.
"coaster" as far as Port Molyneux, at the Mouth of the
Clutha River, one could travel by Riverboat up the
Clutha to Dalhousie (Tuapeka Mouth), the overland
journey thus being shortened to only about 12 miles
along a remarkably flat spur, that exhibited almost a
natural highway. (Fig.3-1) This route was also
advocated if for no other reason than that freight was
guaranteed to be transported from Dunedin to Tuapeka
for £30 ($60) a ton, a price which could not be competed
with by those using wagons and drays over the land
routes. However, as the miners increased in number
and pushed out from the original diggings, new
discoveries were found in adjacent districts, such as
the finds at Wetherston's and Waipori, and it was not
long before alternative routes towards the Interior were
opened up.

The most popular of these new routes was the road
that left the Taieri Plain at Outram, climbed to the
summit of the Maungatua Range before it crossed the
broken country to Waipori, closely following the path of

(8) For many years boats such as the "Tuapeka," "Clutha," "Balclutha," and "Iona," did excellent work in the
conveyance of stores, produce and passengers into
the Interior.
the Lea (Lee) Stream, and then descended in a winding track through Wetherston's to Lawrence. (Fig. 3-1)

Some credit for the development of this road must go to postman "Jock" Graham who, in a letter to the "Otago Witness" in July 1861, said that he had found a leading ridge from Waipori towards Dunedin which presented few difficulties to travel and which, with very few improvements, could be opened up as an excellent road for drays, several of which had already marked the way. Not only was this route more desirable than that via Tokomairiro which, as Graham said, was "more fitted for sailing a punt than for a vehicle that runs upon wheels", it was also much shorter and more direct. Waipori could be reached in 40 odd miles, Wetherston's in about 13 miles more and the Taupeka after a total of some 54 miles. This was approximately 20 miles shorter than the road through Milton and they consequently became known as the "Long" and "Short" roads to Lawrence and although traversing much more

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(9) W.R. Mayhew, Taupeka - The Land and Its People, 1949, p. 107, states that, "The roads to Waipori from Waitahuna and Lawrence today wind tortuously up hill and round gully, following much the same tracks used by bullock teams of the early times".


(11) Mackay's Almanac, 1864, p. 197. Also McInntock, 1940, Map, p. 472, opp. (Short Road referred to as the "Red Coats Road").
Fig. 3.1
Main Routes to the Tauparikaka and surrounding goldfields 1861

- Main roads
- - - Riverboat route

Dunedin
Berwick
Greytown
Outram
Lee Stream
Waipori
Dunkeld
Wetherstons
Lawrence
 Dalhousie
Havelock
Milton
Fairfax
Balclutha
Clutha River

0 5 10 miles
difficult country - the Rev. A. Don describes his journeys over the Old Man Range as "heaven" compared with his trip from Dunedin to the Tuapeka - it was the latter that proved more popular especially when for most speed was the greatest consideration. Obviously this road would have been even more direct had the main exit from Dunedin been by way of Halfway Bush rather than via Green Island and Saddle Hill before crossing the plain to Outram. But although this had been the original route to West Taieri and in fact remained as the beginning of the main northern link for part of the way, it was "by no means free from the danger of descending fog, ravines, and mountain swamps, and the bones of many a lost traveller attested the deviousness of the path". Then with the drainage of parts of the Taieri plain and the pushing through of east - west Gordon Road, by the Provincial Council, the Halfway Bush Road had already been officially abandoned as a Main Road, despite the claims of some.

(13) Hocken, 1898, p.108.
However, the difference in distance between these two routes was only a matter of some eight miles and with the metalling of the Main South Road at least as far as the Taieri this was more than overcome.

**Metalled Roads**

In fact the metalling of the roads occupied a great deal of the energy of the roading department in these first few months of the Golden Era. Not only did the "rushes" have a beneficial effect on roading, in that they opened up new lines to the Interior, but they also threw a great strain on the existing roads. The endless streams of people with their beasts and wagons, soon cut up what roads there were and left them in a deplorable condition.

We crossed the Taieri Ferry, twenty-two miles from Dunedin, where we lost the pleasure of travelling upon a metalled road, the great south line consisting now of nothing more than a dray track, and that same miserable beyond description on account of so much traffic to and from the Goldfields. (15)

This wear and tear had been heightened by the fact that many farmers were, by this stage, erecting fences which

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restricted the traveller to a narrower path rather than have him choose the firmest parts of the road which, as a result, had often spread out to several chains in width. Also one receives the impression that the traffic was all one way. But apart from the many hundred hungry and disillusioned gold seekers who soon returned to the coastal towns, the seasonal transport to the part of Dunedin of the ever increasing wool clip, which had almost doubled since 1859, also added to the very bad state of the roads. The use of metal was daily becoming more urgent.

Naturally enough, the first metal laid, was along the main streets of Dunedin that led out from the Jetty at the centre of the town, prior to which it had not been uncommon for both pedestrians and animals to become bogged up to their waists in the thick mud. Then as the population increased and the boundaries of the block expanded, so too did the road lines and the money available for their general upgrading, particularly through the use of metal. At first this metal was simply spread on the surface of the road and left to bind with the clay formation, the ever present pot-holes.

(16) 1859: 900, 862 lbs. 1861: 1, 791, 751 lbs.
PLATE VII  Bell Hill Excavation with Maclaggan Street in the background

PLATE VIII  Looking North up Princes Street, 1861, with the Bell Hill Cutting 1858 beyond
being filled with a mixture of clay and stones. In some cases river gravel was used, but generally the rocks had to be broken up and as there were no stone-crushers it was a common sight to see a man armed with a long-handled heavy hammer beside a pile of stones breaking them into a suitable size. The metal was generally confined to a narrow strip of about 14 feet in the centre of the road, which was at the time little more than the breadth of a second class road in Britain on which loads were limited to one ton per wheel for vehicles with four inch wheels. In Otago, on much weaker constructions, no such restrictions had been implemented and loads of four or five tons per wheel on vehicles with narrower guage wheels were common place. As a result of such factors any advantages that the metalling may have had were soon lost.

Within a radius of from six to ten miles of the chief towns, the main roads are tolerably good, but the common "bush" roads of the country are little better than rough cart tracks, thickly studded in wet weather with many a mud pit and "slough of despond". (17)

Therefore the Provincial Council with only a minimum labour force, (many experienced workers had left for the

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diggings) ever increasing maintenance costs and rapidly expanding demands in the hinterland, could only report in December 1861 that "metalled" roads extended from Dunedin south to the Upper and Lower Taieri River crossings and from the head of Lake Waihola into the Tokomairiro Plains for several miles, and north as far as Port Chalmers and a track to Waikouaiti.

One of the most pressing issues facing the Superintendent and his Council by 1862 was the opening up of a good all weather road to the hinterland where new discoveries at Hartley Township (Clyde) and Manuherikia (Alexandra) had introduced several possible routes for the development of a main trunk road to Central Otago.
CHAPTER 4

CENTRAL OTAGO AND NEW INTERIOR TRUNKS

The story of Central is written deep,
Where the lonely hills lie long and steep;
Written in road and bridle track,
For all to read in its great outback. (1)

Although it was as early as 1888 that the official systematic survey of the Otago Province reached as far inland as the Manuherikia and several tracks had been developed, it was not until the goldrushes that any large scale progress in road development was undertaken. Which route to follow was a major poser however. Firstly there was the Milton-Lawrence Road which had been extended a further 12 miles to a new find on the Clutha River at Dunkeld (Beaumont), from where this river valley formed a natural highway to its upper reaches. (Fig.3-1) Secondly there was that other natural routeway formed by the Waihemo (Shag) River Valley, with Palmerston by this stage taking precedence as the junction over the earlier proposals of a Main Interior Highway being formed from Hawksbury (Waikouaiti). Although certain initial developments were begun on both these routes, and despite the fact that it is these which

remain today as the two Main Central Highways, it was neither that received top priority by the Council nor by the thousands of travellers who, by August 1862, had flocked to the Dunstan in search of gold. Rather, the original Main Central Trunk Road was a much more direct route which went in almost a straight line from Dunedin to the Dunstan.

The Mountain Track

After leaving Outram this road went northwestwards across the Lee, Deep, and Sutton Streams, bypassed the Great Moss Swamp, through the natural gap between the Lammerlaw and Rock and Pillar Ranges, on across the Upper Taieri River, over Rough Ridge and into the Ida Valley before it ascended the Raggedy Range, dropped down to cross the Manuherikia River and finally headed directly across the Lower Dunstan Basin to Clyde. (Fig. 4-1) But although it was the gold that had made this road popular it had always been a route followed by the earliest travellers, and was a very important link for the large runholders of the fifties, as this description indicates - "Leaving Outram . . . to Campbell Thomson's Rockland Station, thence to Wm. Greig and Robert
Turnbull's Linnburn, thence to W.D. Murison's Puketoi, thence to Dillon Bell's Ida Valley ... and thence to Galloway W.A. Low's, and Montere, Watson Shennan's". Also this was only the general direction of the road as it would seem that there were several alternative routes along the way. For example to cross the Manuherikia one could either go from the Idaburn the six or seven miles to Black's (Ophir) or keep farther south and cross the Raggedys into Galloway Station and across that River into "Shennan's". Later still most travellers settled for the "Balmoral Hotel Crossing" situated only a hundred yards or so downstream from the existing first Galloway Bridge. In addition there were one or two detours which could be made by those on foot or horseback, any vehicles being forced to seek out the more gentle gradients. This was because The Old Dunstan Road, as this route is known today, was over 100 years ago commonly referred to as The Mountain Track, as it cut right across the high mountain barriers which separate Dunedin from its hinterland and which up until the present day have led to competition, complaint and

dispute. It has been described as having "the insignificant appearance of a length of string lying loosely upon a vast area of crumpled brown paper". However, although this road had the merit of being both the most direct and of avoiding the quagmires of the flat, travellers not only had to contend with slippery conditions following rain or frost but there was also the problem of heavy snowfalls which soon covered up the road and any natural landmarks that helped to show the way. Moreover this snow could cover up ruts, large potholes and even, in drifts, level gullies which made the road very deceptive. Then in addition, there were the very strong winds which blew across the deeply incised peneplain and often capsized vehicles. Therefore, whereas the Mountain Track was most satisfactory in summer it often became impassable during the winter months and there were numerous articles, letters and reports by travellers and correspondents

(3) M. Shaw & E. Farrant, Taieri Plain, 1949, p. 45.
(4) For example near the summit of Rough Ridge the track passed through two large rock outcrops known as "Hell's Gates".
(5) Severe weather did not always have detrimental affects however: A strong wind could soon dry out mud, while a heavy frost could make wet areas rock-hard.
alike telling of this tremendously hazardous journey which was undertaken only at great risk. It was apparent even at this stage that this route would become little more than a good summer track and was bound to eventually fall into disuse. Thus it still remained for the Provincial Council to establish a good all-weather road to Central Otago.

**Alternative Interior Routes**

This issue was further complicated in late 1862 by "rushes" to the Cardrona, Arrowtown, Shotover and Queenstown districts, which made popular two further routes into these up-country basins. Firstly there was a road up the Waitaki River Valley from Oamaru which cut southwards through the Lindis Pass to come out in the Upper Clutha Basin, (Fig.4-1) It was just a short distance from there either south to Cromwell and the Dunstan or north to Hawea Flat and the Cardrona Valley route across the Crown Range to Arrowtown. Once again this was a natural routeway which had been followed by the early pioneers (the Lindis Pass was officially recognised by J.T. Thomson about 1858) but

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(6) The Old Dunstan Road remains today only in patches as parts of present roads and tracks.
which had been largely ignored by the authorities because of such things as its isolation from the original settlement, the lack of adequate finance, and the progress of alternative roadways. Then in December 1860 the settlers of the Upper Waitaki contributed £500 ($1000), supplemented by a similar sum from the Provincial Council, for the formation of a trunk road to the Interior up this valley.

The second new route which became important was from Invercargill up the Oreti River Valley to Kingston and thence to Queenstown by a lake steamboat. (Fig.5-1) Although outside the Province, this route had a very important influence on the development of the main roads within Otago. It introduced a competitive factor, with Invercargill able to vie for the trade and especially the gold returns of the Kawarau District. This was to hasten the Otago Council's action in opening up a good interior road that linked Dunedin more directly to these areas.

Thus by 1863 there were four major choices open to the Otago Provincial Council for the establishment of a Main Interior Trunk Road, via the Lindis Pass, the Shag
Valley, the Mountain Track or the Tokomairiro – Tuapeka route, all of which had their favourable qualities. (Fig.4-1)

Meanwhile the water-ways became recognised as more and more unreliable and even dangerous, with difficult sandbars at the mouths of the rivers, rocks, swift currents and shifting sand-banks in the rivers themselves, all adding to the hazards. Competition was also faced from the continued upgrading of the main roadways. "The Daily Telegraph" (4 December, 1863, p.6) reported that the townships of Clarendon, at the head of Lake Waihola, and "Puema", at the mouth of the Clutha River had both suffered severely and almost disappeared as a result of the pushing through of the Main South Road and the consequent falling off in popularity of the water-ways. So even when the roads were in their worst condition they were used by an ever increasing number of vehicles. An all-weather overland road to the Interior had to be established, and when all the pros and cons were weighed up there was one route which at this stage left the others behind in this respect. As has been shown the Mountain Track was obviously not suitable, while the low lying parts of the Tokomairiro Road made it very susceptible to flooding and the Waitaki Valley route, on
which the Horse Range presented serious difficulties, was also too far north for any great convenience. The obvious choice at this stage was therefore the Shag Valley Route.

The Shag Valley Road

Prior to the Provincial Council's first expenditure on this road in 1858 it had commonly been known as Murison's Track. It followed the Shag Valley as far as Kyeburn before it turned westwards and joined what was called "Shennan's Track", the route being poetically recorded in the following lines:

Where spreads the Central's plain and ridge the driver takes his way,
Guiding the lurching oxen as they drag the creaking dray
Across Maniototo Plains, over Rough Ridge too
Along the lonely track until Molyneux comes to view. (8)

From Rough Ridge the track followed a similar route to that which was later taken by the Mountain Track. A still later development was the extension of the Shag Valley Road across the Upper Taieri Plains to round both

(8) H. Beattie, 1939, p.126.
the Rough Ridge and Raggedy Ranges so as to reach
Dunstan Creek (St. Bathans) or follow the Manuherikia
River to Clyde. It was this route which was to
remain as the Main Shag Valley Road, and become
popularly known as The Pig Root. (Fig. 4-1) But not
only was the Shag Valley Road made popular by those
travelling to the gold fields but also by the back
tracking of many diggers in mid-1863 eastwards to new
finds in the Kyeburn-Naseby district. To the new
arrivals, the road via Palmerston from Dunedin or
Waikouaiti made these fields the most accessible while
for those in Central Otago the old Shennan's Track was
as direct as any.

However, it was not long before it was recognised
that these routeways had major shortcomings too. From
the very first month of its formation the Maniototo
residents had complained about the circuitous nature of
the road via Palmerston and had contemplated alternative
routes such as that down the Taieri Gorge, which was
later followed by the railway. Then with the
goldrushes this road became very popular, the change
being climax by the railway. Then with the
goldrushes this road became very popular, the change
being climax in the winter of 1864 when Cobb and
Company announced that in future their coach service would travel by way of Waikouaiti and Shag Valley and not over the Mountain Track. Although the journey to the Dunstan was 30 miles longer this way than via the Rock and Pillar, better road conditions and a regular coastal steamer service which sometimes landed from 400 to 500 on the Waikouaiti Beach at the one time, cancelled out the distance factor. Thus, whereas in December 1863 an "Otago Daily Times" correspondent could write somewhat figuratively that while thousands were being spent on roads and surveys at other places not one shilling was being reserved for the road from Waikouaiti to the Dunstan, by 1864 there were thousands of pounds being expended on this road. Then with the Main North Line being officially declared completed and metalled almost as far as Palmerston by 31 March 1864, the Shag Valley route definitely became the only feasible roadway to the Interior.

(9) The Otago Witness, 9 July, 1864, p.11. (from "Otago Daily Times", 4 July, 1864) reported that for the first time Cobb's Coach passed through Waikouaiti en route for the Dunstan.

as the best road to the . . . goldfields is via Waikouaiti — which is, in fact, the only available road during winter — no doubt the traffic will be very considerably increased by the opening of the Great North Road of this province. (11)

The Provincial Council, which in early 1864, had reported that nearly all the traffic to the Interior was going via Saddle Hill now agreed that, by the middle of the same year, most of this traffic was going by way of The Pig Root.

But it was only a matter of months before this increased volume of traffic cut up the road as it had in other places and in fact there were several quagmires to be met, such as the "glue-pot of the long gorge", and the extensive Flax Swamp area. Lovell-Smith describes a trip along this road with the coach "circling round the boggy spots like a moth round a candle". A parallel can be drawn with the river crossings, it being necessary to ford the Shag River some six or seven times before reaching Waihemo, only 17 miles

(12) Not to be confused with the Flag Swamp area which lay mid-way between Waikouaiti and Palmerston and which was also almost an impassable morass.
(13) E.M. Lovell-Smith, Old Coaching Days in Otago & Southland, 1921, p.63.
PLATE IX  Difficult conditions on the Pig Root
from Palmerston. In addition there were several steep
and winding ascents and descents to be made, which were
subject to heavy frosts and snowfalls and which, even
up until recent years, were regarded as very hazardous.
Then there was the fact that the recent developments
towards the Interior, with the opening up of a good
road from Lawrence to Alexandra and from thence to
Cromwell, had further raised the voices of those settlers
in the Wakatipu-Arrow Basins who pointed out the urgent
need for a roadway that would link them more directly
to Dunedin.

The Arrow township and surrounding districts
are, at the present moment, suffering very
much in bearing the heavy burden of
inconvenience and loss they sustain in
having their goods brought from the capital
by the circuitous road . . . through the
Lake district. (14)

Indeed with the extensions to the Lawrence-Roxburgh
Highway sufficiently completed for it to be opened to
traffic as far as Alexandra in 1864, the journey to the
Dunstan was lessened by several miles and the writing
was on the wall for this to become the main road.

The Southern Interior Trunk

Despite the fact that the Mountain Track had been

(14) Daily Telegraph, 4 September, 1863, p.6.
from Palmerston. In addition there were several steep and winding ascents and descents to be made, which were subject to heavy frosts and snowfalls and which, even up until recent years, were regarded as very hazardous. Then there was the fact that the recent developments towards the Interior, with the opening up of a good road from Lawrence to Alexandra and from thence to Cromwell, had further raised the voices of those settlers in the Wakatipu-Arrow Basins who pointed out the urgent need for a roadway that would link them more directly to Dunedin.

The Arrow township and surrounding districts are, at the present moment, suffering very much in bearing the heavy burden of inconvenience and loss they sustain in having their goods brought from the capital by the circuitous road . . . through the Lake district. (14)

Indeed with the extensions to the Lawrence-Roxburgh Highway sufficiently completed for it to be opened to traffic as far as Alexandra in 1864, the journey to the Dunstan was lessened by several miles and the writing was on the wall for this to become the main road.

The Southern Interior Trunk

Despite the fact that the Mountain Track had been

(14) Daily Telegraph, 4 September, 1863, p.6.
opened up so quickly after the goldrushes and the Shag Valley Road had been made passable to traffic only two years later, it had taken the Milton-Roxburgh road much longer to become well established. It had remained in use all this time particularly by heavy-laden vehicles that preferred the Plains journey despite the extra distances. In 1860 it had been made more direct with the development of the Milburn straight section rather than the road skirting the coastal hills to emerge near Clarksville. (Fig.3-1) This was brought about by the establishment of The Mill Town (Milton) which was soon to become the main settlement of the Tokomairiro district. The road was constructed under two separate surveys which did not coincide exactly and resulted in the marked "kink" in Milton's Main Street. Also the building of culverts, bridges and the laying of metal had been kept up along this first part of the road, and by 1862 for the "first forty miles we had a road which, in the colonies, is called first rate". A year later the "Witness" reported that the Old Tokomairiro Road towards Lawrence

from "Bridge-end to Woolshed", a mere river line of a road, was to be closed and replaced by a new government route. But the development of the Lawrence-Roxburgh section presented many more difficulties than the road engineers had anticipated.

In the first place several widespread tracks had led up and over the hills from the Lawrence-Waitahuna district to eventually link up with the Mountain Track to the Dunstan. But by 1863, with the continuation of mining activities in the Mount Benger and Nokomai districts, the attention of the Council was called to the inconvenience felt, by the settlers and those passing through this area alike, for the want of a good passable road between Beaumont and The Teviot. Regular supplies of food and equipment were the most pressing needs and some indication of the difficulties involved in roading such requirements is seen by the fact that cartage often exceeded £100 ($200) a ton. Good direct overland communication was obviously much more desirable than having to ascend the hills to the alternative Interior Trunks at great sacrifice of time, labour and no doubt temper, and soon progress was being made. It may be mentioned here that the Provincial Council probably saw a further major advantage in this route, as
it channelled trade through Dunedin and her port rather than towards some of the smaller provincial competitors.

The first direct link between Lawrence and Alexandra followed a leading spur over Bowler's Creek to the Beaumont Station. It then descended to Miller's Flat and followed the Clutha for several miles before it crossed the Teviot River, below the present power house, and went on to ascend the Knobby Range to come down onto the Galloway Flat and cross the Manuherikia River. (Fig. 4-1) The first Lawrence-Roxburgh highway therefore followed the east bank of the Clutha River and although it was still in a very incomplete and unfinished condition, for example only snow- poles and stone cairns marked the track over the Knobbies, it did indicate one major factor. This was the tremendous barrier that the rivers, especially the Clutha and its tributaries, presented to the early road-makers. The pioneers had learnt through the hard and bitter experience of fatalities to treat this system with due respect. Only by the efficient use of ferries or the building of bridges could the barrier of the major rivers be removed.

(17) W.R. Mayhew, 1949, p. 103, states that in winter the Lawrence-Beaumont stage was considered a good days journey.
Fig. 4-1  The Main Interior Trunk Routes 1866
(Adapted from Province of Otago Map
Du:Ho V280)
The Crossing of the Rivers

It is not merely by chance that the boundaries of the Otago Region have over the years evolved as the Waitaki River to the north and the Clutha River to the south. During the Provincial Era these two great River systems, draining the glacial Lakes Tekapo, Pukaki and Ohau and Lakes Wanaka, Hawea and Wakitipu respectively, were such tremendous barriers to overland communication with the adjacent Provinces that they formed natural boundaries for a political unit. Being approximately 135 and 210 miles long respectively, the catchments of both Rivers reached right back to the highest part of the Southern Alps that extends from Mount Cook to Mount Aspiring, and which completes the boundary line of the Otago Region, a block of country approximately 100 miles by 100 miles. Then within these limits Otago being, generally speaking, a mountainous region, there are numerous other smaller rivers and streams which also flow swiftly to the sea. Some of the more important of these, from north to south, are the Kakanui, Waianakarua, Shag, Pleasant, Waikouaiti, Taieri and Tokomairiro Rivers. In the Interior, Rivers such as the Manuherikia, Kawarau, Shotover, Hawea and Cardrona also presented major obstacles which had to be surmounted.
In addition there were numerous creeks and even some generally dry gullies which, after a good fall of rain or a thaw in the high country, could become raging torrents of water capable of carrying away all before them. A survey of all the "bridging" developments is obviously beyond the scope of this work - the lead up to and the building of any one of the main bridgeways is a history in itself - but an attempt will be made to outline some of the problems and progress of the more important crossings.

When the first settlers arrived at Otago and began to spread out into the "Block", there were of course no bridges and the original method of crossing these waterways was merely by fording them. This was generally done when on reaching a river the traveller either went upstream or at other times down, guided by the ripple of the water, until the easiest ford was found. Rivers with flat banks were easy to cross, but as most were short and swift they were relatively deeply incised and some preliminary spadework was required. Also rivers with good shingle beds afforded a much easier crossing than those in which shingle was absent. Such factors were partly responsible for the early pioneers preference for travelling along the beaches where possibly the safest of
River crossings were obtainable. Similarly, the necessity for a good ford often meant that many of the main roads deviated from the most direct line. The crossing of the Waitaki River for example, originally necessitated a marked swing inland after Camaru through Papakaio to the Awamoko Ford, several miles upstream from the present bridge site, where travellers picked their way from one Island to another and gradually crossed the wide braided River. (Fig.2-2) Closer to Dunedin, one of the first major obstacles that confronted the pioneer settlers in their efforts to link the capital with the northern townships was the Water-of-Leith. As a result, the Main North Road originally went via George, Frederick and Great King Streets before turning diagonally down Moat Street to ford the Leith and proceed on through the present Botanical Gardens to North East Valley. However, the fording of all rivers was not possible and at all times remained a most difficult task with loss of life common place. Not only was there the

(18) W.H.S. Roberts & other contributors, History of Camaru & North Otago, 1853 to 1882, 1890, p.9, tells of a novel way of marking the road in the Papakaio area. A heavily loaded sledge drawn by bullocks was taken up the plain. This pressed down the tussock and the grass on each side of the track was then set on fire. The track left by the sledge remained unburnt and was thus easily followed.

(19) E.M. Lovell-Smith, 1931, p.49.
threat of melting snows or heavy rain changing the rivers and creeks into turbulent torrents but also there was the danger of being knocked over by floating debris or large rolling rocks. The Reverend J.W. Stack captures the very essence of the whole situation when he writes —

No one ever passed us anywhere without putting the question, "How's the River?" But I had not proceeded far before I felt the same nervous anxiety about every river we approached, for one experience of fording a large river was quite sufficient to make any person dread a repetition of it. To hear that the river was rising filled one with serious apprehensions for the safety of one's life; better far to hear that the river was in "flood," for then no one would feel obliged to cross it; but best of all when the reply came, "very low" for that meant perfect safety while crossing. (21)

Some alternative means of crossing the rivers was therefore recognised as being most desirable. However, little was done towards this prior to the withdrawal from the Settlement of the New Zealand Company. In 1849 a small bridge had been constructed by Company labourers over troublesome little Toitu Creek which flowed across Princes Street near the bottom of High Street. But after

(20) E.M. Lovell-Smith, 1931, p.35, speaks of a driver being jerked off his seat after being hit by a boulder.

1850, as the roads pushed out close to the north and south of the township, the construction of the bridges became solely dependent on the capital and labour of the settlers themselves. Developments south towards the Taieri Plain were the first undertaken and, with a plentiful supply of timber close by, Captain Cargill, in his 1852 Report on the progress of the Settlement, was able to state that the dray road to the Taieri was "substantially bridged".\(^{(23)}\)

At the north end of Dunedin developments were somewhat slower and one writer tells of the Leith in spate with only foot passengers able to cross, they "had literally to creep along the slippery trunk of a big tree which had been felled for a bridge."\(^{(23)}\)

However, it was soon after that the settlers of North East Valley clubbed together, some with labour others with finance, and built a good bridge over the Leith. Dr. Hocken states that it was a really substantial structure capable of carrying ten tons and replaced the old rickety affair over which was often seen men and women crossing on all fours!\(^{(24)}\)

Then with the formation of the Provincial Council these early developments were complemented by official grants of money and progress became more favourable.

\(^{(22)}\) Otago Journal, May 1851, p.111.

\(^{(23)}\) R. Fulton, 1922, p.29.

\(^{(24)}\) T.M. Hocken, 1898, p.151.
But, although bridging of the smaller water courses
was possible, the construction of larger bridges over
any of the major rivers of the Region was, at this stage,
beyond the means of the Provincial Treasury. Because of
this they remained a serious impediment to travel and
the spread of settlement; for example, the population
south from the Taieri to the Molyneux has been estimated
as not more than 300 as late as 1853. Once more it
was private enterprise that supplied the answer, as small
boats were used to "bridge" these rivers.

At first the boats were few, frail and often run by
Maoris, and a contemporary writer indicates the general
feelings of travellers in the early fifties -

The want of proper ferries across the
rivers is . . . a serious impediment
to travelling, and one which has cost
many lives. . . . It often happens
that for hours, and even days, neither
Ferryman nor his canoe can be found;
and when found, the latter is so frail
a bark that danger always, and loss of
life frequently ensues. (25)

By 1853, however, larger boats acted as makeshift ferries
on the main stream of the Waitaki River, on the Waikouaaiti
River at Cherry Farm and on the Taieri River by the

(25) Hocken, 1898, p.137.
(26) W. Fox, 1851, p.142.
Native Reserve, just above the Gorge at Henley. These were run privately, for a small charge, by such intrepid pioneers as James McNeil, who had established a boat ferry over the Molyneux at Balclutha in early 1853. But once more these ferry services proved both irregular and unreliable and travellers could spend hours, possibly all night, often without food, fruitlessly attempting to arouse the boat owner. Then with the formation of the provincial government the urgent need for improvements to the river crossing provisions received official recognition and several Bills were introduced. These soon resulted in the passing of the 1854 Ferries Ordinance which empowered the Superintendent to establish ferries and make reserves of land and borrow money for the same. The ferries were to be licensed and although, at first, the advice and consent of the Provincial Council was to be sought about the rules governing and the letting of these services, this privilege was, by a new Ordinance in 1856, changed to the Executive Council. More important was an amendment Ordinance of the same year which declared that persons, in the event of crossing a river, creek or lake within three miles of an established ferry service and not availing themselves of the services of the ferrymen, were, nevertheless, still liable for ferryage.
There was also to be a penalty for fraudulent evasion which is adequate testimony to the developments made by the Provincial Council in the first few years of its existence. In fact, by 1857, ferries had been established and contracts let on all the major rivers of Otago which were crossed by the North and South Main Roads.

Then as the Interior became more settled and new roads were opened up, similar phases of progress transpired although the final stage was greatly accelerated. As with the roads this boost was brought about by the goldrushes and soon many ferries had been established, often with two or three close by on the one river to at first cope with the heavy traffic and later on to compete for the trade.

A ferry was commonly regarded as any punt or floating bridge, although the latter was never popular probably because of such factors as the width and swiftness of the main rivers and the absence of large supplies of wood in the Interior. However, the punt was very popular and in fact they served on one or two of the main rivers well into the twentieth century. These consisted of a broad frequently-fenced platform which was supported
by a number of floats or boats that were attached to a long cable spanning the river. The method of crossing was both ingenious and simple with the force of the river current acting upon the rudder and, guided by the ropes, the passengers were taken from one bank to the other. Some were more simple still with the passengers being required to haul themselves hand over hand across the water or to catch a rope affixed to the opposite bank as they were swept along with the current.

They had a bullock-hide rope stretched across the river at the Point. It was anchored to rocks on each bank. The Ferryman had two logs hollowed out. These were lashed together with bullock hide. Two miners crouched in the dugouts, one forward, one aft, the ferryman in the centre. Hanging on to the rope he hauled away and so drew the freight out into the stream. (27)

But while ferries usually gave good service and greatly improved travel they were always regarded only as a makeshift means of crossing the more dangerous rivers until bridges could be built. Their comparative slowness and lack of space were always troublesome; for

example it is recorded that James McIntosh's coach (28) rolled off the Taieri Ferry and there were other reports of ferries capsizing because of unbalanced loads. As the traffic increased particularly with the large goldrush influx, the ferries became less able to cope and waiting crowds were a common sight. This accumulation of vehicles and pedestrians soon added to the heavy maintenance costs already to be met and a more substantial structure with a much greater initial output became desirable. Not only was this expenditure both regular and excessive, but also the general public felt that the money they had paid over the years for crossing on the ferries would have been better spent in the construction of bridges.

Therefore by the sixties bridge building had received a new emphasis with large amounts being expended on their surveying and construction work. These developments had,

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(29) By a proclamation in the "Otago Gazette", July 1963, charges for ferryage were fixed at:

- Each person, horse and great cattle 1/- (10 cents)
- Small cattle (when under twenty) each 4d (3 " )
- " " ( " over " ) " 2d (2 " )
- Vehicle 2/- (20 " )
- Horse with vehicle 1/- (10 " )
- Bale of Wool 1/- (10 " )
- Goods - every 100 lbs, 4d (3 " )

In C.W.S. Moore, The Dunstan, 1953, p.36
PLATE X  A Cobb and Company Coach crosses the Molyneux River on the Beaumont Ferry

PLATE XI  The Albertown Punt
PLATE XII The Alexandra Bridge soon after completion, 1881. (The original punt site can be seen to the right of nearest pier)
by this stage, come under the suspices of the Road Engineer's Department and not the Public Works Department, as they were now recognised as an integral part of the rapidly developing main road system and could greatly influence their progress as such. This was nowhere more apparent than along the Lawrence to Cromwell and Main Lakes Highways of today, where the pioneer Engineers, despite their primitive appliances, unskilled labour force and under difficult climatic conditions built such fine and durable bridges many of which are still in use.

In after years I never went over a Bridge without feeling grateful to those who built it, and made the River crossing easy and safe.

J.W. Stack, p.15.

Conclusion

Thus it has been shown how a change in emphasis on the Main Interior Roadways progressed from the Mountain Track to the Palmerston-Pigroot and Lindis Pass Trunks and, by 1865, to the Lawrence-Roxburgh Route. But so far in the final change, only the negative aspects of the previous main routes have been concentrated on,
which leaves the equally important positive attractions of the new route largely over-looked. To the Dunstan via Milton was firstly shorter by several miles than by way of the Shag Valley. It also served a larger and more permanent population and a more productive agricultural area. The terrain was overall more level and, while the metalling of this road had been carried continuously almost as far as Waitahuna, the schist base of much of the remainder of this route had already proved reasonably resistant to the ever increasing traffic. Moreover travel was generally made easier because of the freedom from scrub and the presence of low-lying grasses. But the one factor which cannot be over-exaggerated is that of the provision of ferries and bridges over the more important rivers and creeks along the way. It only remained for the engineers to finally select and to fully develop the best routes for the Central Otago road network to become firmly established.
CHAPTER 5

Part 1

THE MAIN LAKES HIGHWAYS

As has been previously shown the first section from Lawrence to Alexandra originally went via the eastern shoreline of the Clutha River and over the Knobby Range, "threading . . . among the weird looking, weather eroded schistose rocks", and thus avoided any major river crossing. But it was not long before the flatter country on the western bank was recognised as being much easier terrain to travel and prior to winter 1863 a start was made on the road on that side of the Clutha. Not only was the west bank better terraced, with a much firmer sub-surface for road construction, but there were also far fewer small streams to ford and later bridge despite the initial crossing of the Clutha. It was at Miller's Flat that the first official crossing site to the west bank was made and in a report to the Superintendent dated 11 August 1863, Francis Howden, the Provincial Road Engineer, stated that "the road had already been formed on the other side of the river between the Teviot and Miller's Flat". Also by this stage it was obvious that the Roads Department was determined to

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(1) A.H.H. Webster, Teviot Tapestry, 1948, p.89.
extend this roadway, to link up with Lawrence, as soon as possible - "the road . . . on being opened throughout to Tuapeka should be sufficient to satisfy the requirements of the district . . .". Unfortunately the first stage stretching from Lawrence as far as Island Block was very broken country and naturally a difficult section to develop. Nevertheless it was not too long a period before a ferry service was begun on the Clutha at Beaumont and, by the middle of 1864, the small township of Miller's Flat concentrated on the east bank of the river had, as a result of the opening up of the Lawrence-Roxburgh highway as it exists to this day, been isolated. So gradually the east bank route was deserted for the less rugged more easily negotiated road on the west bank of the Clutha River. (Fig.6-1)
The steep and rugged ridge and gully relief on the west bank between Roxburgh and Alexandra, however, still presented too many hazards for the construction of a good road and the high route via the Knobbies was persisted with at this stage. It was linked to the new west bank road by the establishment of another punt across the Clutha at Roxburgh in December 1864, and soon after this township began to favour the west bank for

(2) A.H.H. Webster, Teviot Tapestry, 1948, p.89.
settlement. Therefore by 1865 the Lawrence to Roxburgh road following in the general direction of today's Main Highway was completed and in April a coach service to the Dunstan was begun via this route.

The Alexandra - Cromwell Link

Meanwhile further into Central events had moved along quite swiftly. The good level, shingle-based terraced surface between Alexandra and Clyde had presented few problems for the passage of vehicles over the seven mile distance, although it should be remembered that the main routes bypassed Alexandra along a more direct roaddine which is to this day called the Dunstan Road. Despite this it is recorded that one driver, between these two townships, did have his problems. He wondered why there were so many water-races to cross until he found that in the dark, hazy atmosphere he had been, for some 30 minutes or so, travelling in a circle!

The Clyde to Cromwell section gave rise to even greater difficulty. In the first place this road took to the hills on the west side of the Clutha and wound its way on across the Cairnmuir Range before it descended

(3) E.M. Lovell-Smith, 1931, p.94.
steeply towards Bannockburn, from where travellers could continue to the Nevis or the Arrow, or circle back to The Junction (Cromwell). (Fig.5-1) Then in 1862, with the rush for gold in the area, public opinion forced a change in the road. Because of the desire for the most direct route and the attraction of the gold bearing river, the road was shifted to run alongside the Clutha's west bank across a very rugged "bluff and gutter" terrain. (Fig.5-2) Once again the influence of the river crossings is apparent. Despite the fact that to reach Cromwell by this road required two river crossings, one across the Clutha at Clyde and the other across the Kawarau at Cornish Point, it is evident that this was easier at this stage than having to make the one crossing of the steep and narrow-walled raging Clutha at Cromwell. By 1853, despite the fact that the lower section of the Gorge provided good level terrain for road development, it was obvious to the Provincial Council that, because of the precipitous banks and difficulties to be encountered closer to Cromwell, this road could never become a permanent way and must consequently remain a subsidiary road. On the other hand it was recognised that the east bank of the river did not present as many problems to the formation of a good
road. Not only was the surface level in more places but there was also a better sub-surface for construction. Such advantages meant that the road was cheaper and took relatively little time to develop and by the winter months of 1863 the east bank was carrying as much traffic as the west. Nevertheless the safest crossing of the Clutha could only be made several miles above Cromwell and the future Main Highway from Clyde was still in the balance. However, the construction of a "foot-and-pack" bridge by Henry Hill, a pioneer of communications, across the Clutha some one hundred yards above the Kawarau Junction at "Doctor's Point" in May 1864, made all the difference. Such a small structure could obviously not handle all the traffic but more important was the fact that it had shown that the building of a bridge across the Clutha was possible and indeed necessary. The Provincial Council was quick to act and by the end of 1865 the construction of the first true Cromwell Bridge, "The Latticed Bridge", was nearly finished and the east bank road had all but become the main route. (Fig.5-3) Cromwell was established not only

(4) Alex. Don, Memories of the Golden Road, 1936, p.65, states that a crossing could be made half-a-mile below Cromwell although the dates for this are uncertain.
PLATE XVI Cromwell, 1878
(Cornish Point in Background on Kawarau River)
PLATE XIV  Hill's Bridge, Cromwell, erected 1863

PLATE XV  The Old Latticed Bridge - The original Cromwell Bridge, 1868
PLATE XVI

Cromwell, 1878
(Cornish Point in Background -
on Kawarau River)
eventually to Queenstown. However, the Kawarau River with its deep-cut rocky bed, its near perpendicular banks and its hills rising steeply and abruptly from the edge of the banks was to prove a very difficult valley through which to push a road. Whereas most of the other rivers followed by the main trunk roads of the Province had in many places provided good level valley terraces for more easy road construction such advantages were absent in the Kawarau Gorge. In fact so hazardous was the passage that the first roads did not extend its full length. Travellers preferred to ascend the steep sides of "Gentle Annie and her tall sisters" (7) up the valley of the Kittleburn Stream (Roaring Meg) to the summit of the Crown Range where they joined up with the Carirona traffic. A second road, several 100 feet higher than the present Highway, proceeded on past this point to the Gentle Annie from where one gradually climbed the lower spurs of the Crown Range to eventually come out on the Crown Terrace, from where both these early roads descended towards the Arrow River ford by the very steep and narrow Tobin's Track. (Fig.5-1) The Cromwell residents were evidently

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(7) R. Gilkison, 1958, p.114. He also states that this track was sometimes called "Branigan's Folly", after a Commissioner who had to report on the feasibility of a track by this route.
Fig. 6.1 The Main Lakes Highways 1860 - 61
dissatisfied with this route as they wanted trade diverted in their direction and so, by 1864, the main road had been diverted through Cromwell. Meanwhile the settlers in the Queenstown-Arrowtown districts had aroused much agitation over the want of a better road link with Dunedin. "The Otago Witness", 16 May 1863 (p.?), tells of a public meeting held at Lake Wakatipu to discuss the residents' concern about a more direct road link with the Dunstan. Not only would the complete Kawarau Gorge Road be tens of miles shorter than the alternative routes but it would also avoid many of the delays and risks attendant on goods sent via the Crown Range or Lake Wakatipu; and not only would the development of this road greatly improve the resources of the District itself but it would also enlarge the income of the Province as a whole and commercially benefit the Capital. However as with all other road developments the cost was the deciding factor. The estimated outlay of some £40,000 ($80,000) was originally felt to be too much for the Provincial Council. But when the continuing high costs of keeping the two circuitous alternative routes in repair was considered, along with the capital to be gained from additional land sales and trade, it became obvious that the extra initial outlay on the new road would rapidly be recovered. Such
factors were soon apparent to all concerned and surveys were commenced.

Originally only a bridle track skirted the whole length of the Kawarau Gorge. The Dunstan Correspondent of the "Otago Daily Times", 1 July 1863, wrote that the new bridle track was almost complete. It abounded in very sharp and slippery sections and overall was extremely narrow and dangerous. Even a decade later a visitor could write —

The path was so narrow that in many places had I dismounted, I should have gone down a fathomless distance before reaching any landing place, there being literally no room for a man to stand between the horse and the edge. (9)

Therefore it was not many months before a wider and safer road was being prepared and the "Daily Telegraph", 12 November 1863, stated that a dray-road to the Kawarau Basin had been commenced. This was only made possible by the commencement of a large rock-clearing project at the Nevis Bluff, where to this day the loose texture of this schistose outcrop still presents problems to efficient road construction. Moreover good river

(9) Alex. Bathgate, Colonial Experiences in Otago, 1874, p.131.
(10) P.4, from the Dunstan News, 7 November, 1863.
crossings had to be established over the Kawarau River. Access to the north bank and the "Gentle Annie Track", had at first been gained by way of a narrow natural bridgeway formed by a rock archway which spanned the Kawarau immediately above its junction with the Roaring Meg. At one time this had been a complete arch but by 1860 it was necessary to jump across, "if the roaring torrent below is not too much for the nervous system". Then with the arrival of the pioneer sheepmen and later the gold prospectors to the district planks were laid from one side to the other and the first Kawarau Gorge bridge created. But as this original route was altered and the traffic density increased, better crossing sites along the new road had to be decided upon. Hurried surveys were carried out and in September 1863, the contract was let. The necessity for the rapid construction of the road occasioned some looseness in the terms of the contract, with a little latitude being given to the contractors to choose the particular line of road, although certain limits regarding gradients were understood. Nevertheless the direction of the road when finalised remains that generally followed by today's

(11) A.H. Duncan, 1888, p.11. As the first white man to discover the natural bridge in December 1860, he had to jump the river, although he claims a Maori report refers to the complete rock archway.
Main Highway. It was to go from "the Kawarau Junction [Cromwell] to about four miles above the Roaring Meg then across the Kawarau to the South, about a mile above the junction of the Nevis. A punt or substantial bridge [Victoria Bridge] must be made at this place. Thence along the Nevis Valley to the Kawarau again, about a mile above the junction of the Arrow, and here too a bridge or punt [The Morven Ferry] must be erected. The Arrow township is five miles from the crossing."

(Fig.5-2) Soon November gangs of men were at work on this road in an urgent attempt to replace the precarious track which had hitherto served the travelling public. But every inch of the way presented the contractors with major engineering difficulties that had to be overcome. Many tons of projecting rock had to be removed as the road was pushed through the steep-sided gorge, which often gave rise to slips and slides from above. There were also numerous creeks and ravines that cut across the projected path and either necessitated expensive bridging work or a lengthy detour. So by 31 March 1864 the Roads Department could still only report that the road was open for drays as far as the Roaring Meg, some ten miles up the Gorge. Just a month later however, it

(12) Daily Telegraph, 4 September, 1864, p.6.
appears that sufficient progress had been made for a coach mail service to be commenced between Cromwell and Queenstown, with pack horses linking up where the road remained unfinished. Nevertheless it was a most hazardous journey —

the road, which is cut from the mountain side, took the form of a brawling brook, into which stones clattered from above us. . . . Occasionally we were pulled up by landslips that completely blocked the road, . . . we had to dismount . . ., moving warily over fissures cut by impetus cascades that were now leaping madly from the hills. (14)

It is on record that one of the earliest gold escorts from Arrowtown to Dunedin via the Dunstan, on account of the bad state of the road, took 10 or 11 days to reach its destination, and many a contemporary report spoke of the urgent need for improvements especially along the Kawarau Gorge section. But it remains that already, by 1864, this difficult access route had been established as the main link between Dunedin and the Lake Wakatipu district, although the final section of this road followed a different direction from that of today.

(13) Lovell-Smith, 1931, p. 77.
(14) C.S. Ross, Early Otago, 1907, p. 178.
(15) Alex. Don, 1936, p. 70.
From the Morven Ferry the road went almost in a direct line to Arrowtown, from where, prior to the opening of the Kawarau Gorge Road, a naturally defined route up a glaciated valley to Arthur's Point and thence to Queenstown, had already been developed. Consequently there was little debate once the Kawarau Gorge route became popular as to which direction the main road would take. (Fig.5-2) But probably the major advantage of this route was that it avoided the very dangerous Arrow (the name itself originates from its swiftness) and Lower Shotover River crossings. Where the road did cross the Shotover, near the present Edith Cavell Bridge, the River is confined to a narrow rocky gorge which presented fewer problems to the early bridge-builders. By December 1863 private enterprise had once again fulfilled the duties of the government and a bridge had been completed.

But as the emphasis changed to Queenstown, as the distributing centre for the rapidly developing adjacent agricultural lands and the still expanding goldfields population, a more direct route was established. This branched to the left off the Arrow Flat road to sweep around either side of Morven Hill and to pass on the south side of Lake Hayes. It continued almost in a
direct line to the Lower Shotover where, because of the swift current, and shifting sands it was not long before a ferry was established (Forster's Ferry). After ascending the steep Shotover Terrace the good straight road carried on to Frankton. The importance of this small settlement as a terminus for the new road is indicated by the erection of a Gaol and Post Office there in 1864. Ample evidence is also available to make one believe that the road up the south side of the Kawarau was extended from Morven Ferry along the banks of the river until it reached Frankton Arm, thus avoiding any major river crossings at all. However, the water at Frankton was too shallow for a lake service of any importance to be established and Queenstown continued as the leading centre with the main road soon being extended over the extra five miles. The general direction of today's Lake Wakatipu Highway had therefore been completed. (Fig. 5-3)

The Main Wanaka Road

In the other direction good progress was also being made on the northern branch road from Cromwell to Pembroke (Wanaka). The major flow of traffic, now diverted through Cromwell, followed a good level road along a river terrace on the west bank of the Clutha.
where the surface materials were generally hard and unyielding. The importance of gold in the Upper Clutha Basin, was not nearly as great as that extracted from the vicinity of the Kawarau and developments were therefore slower. It has already been explained how the Upper Clutha Districts were at first entered by way of the Lindis Pass and that with the opening of the Cromwell Gorge Road this latter, more direct route, took precedence. The original road followed the east bank of the Clutha although it was not long before the large majority of traffic, after having reached Cromwell, crossed the Clutha to the west and followed a similar route to that taken today. Lowburn was reached after only four miles although it was much later that this site was developed as the most important ferry crossing to link up with the Waitaki Valley Road. In the sixties the major ferry crossings were made at Wakefield and Sandy Point, further up the river, to serve the Bendigo diggings and surrounding area. (Fig. 5-2) Luggate was reached after some 28 miles from where the direct road to the Cardrona River could be followed. But because of the difficulty in fording this river the main road took a more circuitous route, on which the relative safety of the punt was available. The first crossing of the Clutha was made
Fig. 5-2  The Main Lakes Highways 1863 - 64
at Luggate and the second at Albert Town. Situated on the Clutha between the junctions of the Hawea and Cardrona Rivers, Albert Town, in those days, could boast an Upper and Lower Punt service and without a doubt was the commercial hub of the District at this time. It was not until several years later that this position gradually shifted to Wanaka and this township became the junction of the Crown Range Road to Queenstown. Then the final step came when the more direct route across the Cardrona River became part of the Main Cromwell-Wanaka Road. (Fig.5-3)

Therefore by the mid-sixties the Main Lakes Highways of today had already taken shape. In fact, by this stage, the general direction of the entire main road network under discussion had been formed, although there were still some major alterations necessary and the upgrading of all roads was required. But, whereas in 1860, Herries Beattie describes Central as "a roadless land with a few wheel marks or sledge marks forming a track or two", and a year later J.T. Thomson's official map of the Province showed only the north-south road as a main route, by 1865 a complete Interior Main

(16) H. Beattie, 1939, p.118.
Fig. 5-3  The Main Lakes Highways 1866 - 67
Trunk Roadig system, linked one with the other and in turn to the east coast main line, had been constructed. All could boast various standards of coaching services which deserve special mention.
PLATE XVII  
A Section of the Old Morven Ferry Road - such steep and rocky terrain is typical of the Kawarau Gorge

PLATE XVIII  
The original route to Wanaka went via the East Bank of the Clutha River
Part 11

COACHES, HORSES AND HOTELS

Up until now it has been shown how factors such as the shortest route, the most natural route and the route which served the most settlers as well as opened up the most country for development, have all influenced, to a large extent, the directions taken by the main roads. However, it must also be remembered that opinions as to which is, in general, the most popular and least costly route, change as the means of transport improve. It must now be shown how the introduction of coaching to Otago influenced the road development.

Although the first coach service to take to the road was the Mail Service established between Dunedin and Balclutha in 1858, it was not until the discovery of gold in Otago that the true Coaching Era began. The name invariably associated with this period is undoubtedly Cobb and Company. Nevertheless it is interesting to note that no Cobb either drove or financed a coaching business in Otago. Despite the constant reference to this firm in history books and although they sold out after only two and a half years business, the name had become synonymous with coaching and continued to be used by succeeding firms. It was
one Charles Cole, who arrived in Dunedin 4 October 1861 with a single coach and many horses, who began the first passenger service of any consequence in the Province. Taking advantage of the newly discovered Goldfields in the Interior, Cole began a daily service to the Tuapeka only a fortnight after his arrival — his first exploratory trip had been undertaken only a week after his arrival. This service went via Tokomairiro while another run was subsequently begun to the Waipori Diggings and Lawrence via West Taieri and the Maungatuaas. Then in November 1862, the Dunstan rush gave rise to a new service over the Mountain Track to Clyde, the trip taking three days. By 1864, however, even though the service had during 1863 become a one-day trip, the most intrepid drivers had found this route too difficult to travel.

Its precipitous inclines and muddy surfaces would baffle modern transport and the art of driving vehicles over it being almost a special branch of science. (1)

As a result in mid-1864 the Company announced that in future the Dunedin to Dunstan run would go via Waikouaiti and the Shag Valley route. But less than a

(1) C.W.S. Moore, 1933, p.66.
year elapsed before a further change was made and the Lawrence - Roxburgh road, which had been opened to Alexandra over the Knobbies, was adopted as the Main Interior Coach Road. In the meantime the Main North Road had smaller coaches running on it between Waitouiti, Oamaru and the Waitaki, and the Main South Road service had been extended past the Clutha via Invercargill and Kingston to serve the Wakatipu Basin. While this latter run soon hastened the development of the Dunstan to Queenstown main road, it was not long before Cromwell became the terminus for the second day's journey of the Lakes Services rather than Clyde. Therefore by 1868 coach services, both mail and passenger, travelled between all the major centres of Otago, even though some remained linked by pack-horse.

At this stage, rather than influencing the direction and development of the main roads, the coaches played an important part in improving them. The roads and bridges, which had been hastily made during the first few years of the goldrushes, due to the heavy rains, the hard frosts and the high traffic density, had become very cut-up and presented the coach drivers with many problems. They had to be prepared for every possible emergency, especially because of the unpredictability
of the weather. For example, the coach might become snowed in at one place or sink to the axles in mud at another; it might overbalance or be blown over on a hillside or be carried away by a swollen stream somewhere else. The coaching days were filled with danger and accidents were common, although there were several ingenious methods of attempting to avoid some of the more obvious of these. In muddy places, where there was always the risk of becoming bogged and having to spend a cold night in the open, a common practice was to lay scrub, rocks, sacking and the like across the road. But if such items were not readily available and a detour off the road and on to a hillside was necessary the threat of capsizing was often great.

"Now, gentlemen, lean well up to windward", was more than once shouted to us by the driver. We were on a steep sideling, and to produce a proper balance we had all to lean to the upperside. Our anxious faces emerging from the upperside of the coach would have afforded a good picture for "Punch". (2)

In addition a slot was often dug for the upperside wheels of the coach to follow, while, if the threat of capsizing was even greater, guy ropes were attached to the coach and secured by willing hands, generally the

(2) B.A. Heywood, 1863, p.163.
passengers, who stood above the coach and took the weight. Ropes were often used in this way on descending a very steep hill where such things as the brakes failing or the horses bolting could have led to a serious mishap. A common occurrence was for the king-bolt, which harnessed the horses to the coach, to break, it being subject to great strain on the steep sections. Consequently the lead horses were often taken out of the team and placed at the back of the coach, while the passengers, generally after they had walked up one side of the hill, were then called on to hold the coach back during its descent. To aid in this process an iron skid, "a shoe," was sometimes fastened to the back wheels. An even more novel way of achieving this aim was to attach to the rear of the coach a heavy rock which was dragged down the hill.

One Waggoner records how, in order to save the brakes, he used to fasten a weighty rock to the back of his dray before beginning a particularly steep descent. By the time he had been on the road for a year or two he found that he had in this manner deposited at the bottom of the slope quite a considerable heap of stone.

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(3) The Coachmen sometimes had to unload their vehicles and haul the goods up a steep pinch on their backs before having to reload and continue the journey.

(4) Alex. Don, 1936, p.66.
More important, however, were the adverse climatic conditions. One day they travelled over roads deep in mud or snow, while on others they were troubled by thick clouds of dust or dense fog. But of all the elements the wind was probably the most unpredictable. There are regular references to coaches being blown bodily over by strong winds particularly on the more exposed hillslopes of the Mountain Track and the original Pig Foot, although even on a flat stretch of road a coach, because of its tall light structure, was often forced into the side rough or overturned. One way of attempting to obviate this hazard was by the removal of the coach roof. The passengers, it would seem, preferred the threat of a wetting, although they sometimes received both as the coaches were still blown over.

Therefore it can be seen that overland travel continued to be a long, rough journey that bad weather made an ordeal which took courage to face. People still did not travel for fun in the late sixties and the coachman's most regular passenger remained his shovel. While timetables could be drawn up and indeed were sometimes met, there was never any guarantee that a trip

(5) It would seem that fog was more prevalent in those days, probably owing to the undrained state of the country.
would take the advertised timespan to reach its
destination or twice as long. In a trip through
Central undertaken by author Anthony Trollope in the
eyear seventies, as was often the case, the passengers
were called on to assist the coachman in clearing a
blocked cutting near Waitahuna upon which Mr Trollope
remarked that he was "more at home with a pen than a
shovel". In fact the greater the danger the better
the coachman seemed to like it and the feats of some
read in places as if fictitious. The seemingly poetic
stanzas of the coach-driver being blinded by the snow or
having his hands frozen to the reins did in fact happen!

Some credit should also be paid to the coach-horses
which were always carefully selected and trained.
Admittedly unfortunate accidents did occur through
horses bolting, shying or losing their footing on some
rough piece of road, but generally the horses were very
reliable, footsure and steady. The drivers prided
themselves on the tremendous understanding that they
developed with their horses and many had their own
language with which to work their teams. One driver
boasted that such was the size of his team that he had

(6) A. Trollope, *Australia and New Zealand*, 2nd Edition,
1873, Vol.2, p.334. His trip from Queenstown to
Dunedin which should have taken three days took six.
to start his horses moving the night before so that the slack in the traces might be taken up by morning! Thus the horses, most being used only on the one run, soon learnt the routes and it is on record that a horse followed the track and even forded several streams with its rider asleep in the saddle, while on another occasion a coach having arrived empty at Naseby was found to have lost its driver - he was asleep on the roadside not far from Alexandra.

Therefore it was the whole vehicle, the coach, the driver and the horse team, which characterised the Coaching Era and which greatly influenced the development of Otago's main roads. The efficiency of the coach services was remarkable and accidents, on the whole, were few considering the many difficulties to be overcome.

Despite the fact that the first coach had shown that the introduction of a service was possible without any major improvements being made to the roads it was not long before they had created a demand for better roads and bridges. It is true that some of the difficulties could not be completely overcome even by the tremendous sums of money that were expended on the roads, yet the

continued improvements minimised all problems. As sufficient funds became available cuttings and the lowering of gradients restricted the exposure to winds and the possibility of capsizing; the construction of bridges, culverts and drains lessened the likelihood of a wet journey, and the laying of metal lessened the wear and tear on horses, vehicles and passengers alike. The coach was soon recognised as the boss of the road and a percentage of the accidents, rather than being a direct result of the bad state of the roads or weather, became attributable to the competitive racing of the coaches. Mishaps were sure to occur as drivers whipped their teams along the loose metalled narrow roads to pluck prospective passengers from under the very nose of a competitive firm. Speeds were often excessive and other road users soon knew to pull well over to one side of the road when they heard the thundering approach of the coach - that is if the shouts of the anxious passengers were not heard first!

Obviously such speeds could not be sustained by one team of horses for any great distance, which turns the discussion to an integral part of the Coaching Era, namely the Accommodation Houses or "Shanties", and their associated stabling facilities. In fact it is difficult

(8) Lovell-Smith, 1931, p. 42, goes so far as to say that wagers were placed on the coaches by the public.
to think of these days without forming a picture in one's mind of a small plain but homely Inn outside of which the stablehand is busy unharnessing the tired steaming team of horses while the passengers prepare themselves to partake of a very welcome drink or bite to eat. These stopovers were a very important part of the whole complex of roads and travel in the early days and indeed they remain so to this day.

At first the volume of traffic on the roads did not warrant the building of Hostelries and a visit to one of the early farm homesteads was the general rule. Not only did these visits give shelter and comfort to a tired traveller but they also helped relieve the monotony for the isolated dwellers.

Hospitality was free and unbounded in the early days ... and everywhere you went you were sure of a meal, a bed and a welcome. (9)

However, as the population increased and road-users became more numerous, it was obvious that such hospitality could not be extended to all and for many the wagon they travelled with was their home. It was the kitchen and the bedroom, the granary and the general store for man and beast alike. There were recognised

(9) H. Beattie, 1939, p.94,
halts along the various routes where the travellers camped for the night. These spots were generally near to water, as sheltered as possible and with firewood close by. Often as many as a dozen wagons met at the one spot and some time was passed in song, sport or yarn with the conversation frequently turning to the condition and possible difficulties to be faced on the road ahead.

Then came the goldrush period with its hordes of people, its increased wealth, its coaches and its Inns which were all affected one by the other and which in turn greatly influenced the progress of Otago's main roads. It was alongside the Hotels that most of the stables were built. But while some of the rather colourful names of the past live on to remind us of that period - The White Horse Inn (Milton), The Coach and Horses Inn (Lawrence), - most have either disappeared completely or fallen into disrepair in course of time. In fact some became deserted almost as quickly as they were erected, especially as the popularity of the main roads altered so quickly during the sixties, and it was not uncommon for a coach to pull up at an Hotel and find there was no food, liquor or sleeping accommodation available. Nevertheless some

(10) Lovell-Smith, 1931, p.68.
of the old buildings linger on to this day and serve
to provide a link with this romantic period of Otago's
past.

The first Hotels were sited in Dunedin and it was
not long before the country roads, where no human
habitation had stood before, became dotted with the
inevitable accommodation house. They were of particular
importance in Central where, in many areas, wood was so
scarce that the erection of a tent or the building of
a fire was almost impossible. Here they were a boon
and much frequented and one every five to ten miles
along a main route was not uncommon. On the Old Dunstan
Road for example "at every possible ford, bend or valley
flat there appeared an accommodation house, a shanty or
a sly-grog shop", although the horses were not usually
changed until 12 to 16 miles had been covered. The
general pattern was for the Hotels to be further apart
on the flat than among steep and rugged country.

Some of the early Hotels were made only of calico
or canvas (Queenstown was at one time called "Canvastown")
although such structures were never really satisfactory -

(12) A. Eccles, Editor, A Pakeha's Recollections, 1944,
p.105, states that on a trip to Clyde via the
Pig Foot the horses were changed 16 times - 46
horses all told.
PLATE XIX  A Coach on the Main South Road, outside the White Horse Inn, Milton, 1869

PLATE XX  Wagons piled high with wool bales, such as those above subjected the roads to much wear and tear
In due time we reached the summit, along which we proceeded until we came to a very steep descent, where we had to get out. It was raining hard, and glad we were to run down at the peril of leaving a boot in the mud, and get a little shelter in a canvas Inn, which was quite full of diggers, and was every minute becoming more and more like a shower bath. (13)

Others were made out of corrugated and galvanised iron sheets which, although very portable, easily shaped and generally rainproof, had at least one major drawback in that every word uttered could be heard throughout the whole building. (14) But structures were soon to become more solid and permanent with mud bricks, schist rock and timber being used. Many of the leases became controlled by the Government subject to conditions of good management and the whole business was improved. Travelling soon became more leisurely and trouble free and a greater number of people took to the roads as coaching became more popular. This in turn gave rise to an increased demand for better roads and the complex interrelationship of the whole Goldrush Era further aided the progress of the Otago Province. Gold had certainly provided the dynamic factor necessary for growth but all was not as well as it seemed.

(13) B.A. Heywood, 1863, p.163.
(14) A. Trollope, 1873, p.335.
CHAPTER 6

CONSOLIDATION-COMPETITION-COMPLETION: 1865 - 1876

In spite of the apparent progress made during the first five years of the 1860's the year 1865 had opened gloomily for the Province of Otago. As the leading article in the Otago Daily Times for that year pointed out, the vast improvements, especially to the Provincial roads and streets, had been carried out at too great a cost. They had been purchased not only at the cost of an impoverished exchequer but also a financial embarrassment. Such a situation had been foreseen some two years earlier by a Select Committee on Roads and Their Construction and again outlined a year later by a similar governmental commission. The main contributory factors were firstly that the Main Interior Routes had been opened up somewhat hastily and their popularity had changed almost as quickly. As a result there were many miles of formed road carrying little traffic but still requiring regular financial outlay. Additionally there was little concern about the modern trend towards making roads as straight as possible, because one must consider the equipment available and the possible conflicts with other interests such as the evasion of existing settlements, the breaking up of holdings and the opening up of new agricultural land.
It would appear also that the provincial government had to deal most liberally with landholders who had apparently suffered as a result of any deviation from the original road surveys. Moreover it was not as though the money had even been expended on permanent works, for who was to know if the Goldfield Towns would remain or when Railways would eventually replace the Roads. They were also constructed under the ordinary disadvantages of any new country in that the money at command was used to extend the main thoroughfares as far as possible towards the most distant settlements of the Interior, rather than having the same amount expended upon a shorter length of superior construction. While such roadbuilding should always be followed up by regular maintenance work in order to preserve the asset and thus allow the roads to continue to fulfill their original purpose, this was not always possible. Because of such factors as the rugged topography, the extremes of climate and the high traffic densities, plus the soft nature of the subgrade and the absence of available road metal in many areas, the cost of maintenance and general

(1) A Report of the Commission on Roads and Their Construction, In Otago Witness, 22 April, 1864, p.16, states that much greater sums than the £1,200 ($2,400) to £1,800 ($3,600) per mile spent previously were needed following the Goldrush influx.
upgrading work was excessive and too often the usefulness of initial construction work was nullified as a result. Without the adequate revenue roads and bridges had to remain in a state which hindered the country producer and indeed the whole commerce of the Province.

In the Eastern Coastal District a large capital outlay was similarly required in an attempt to keep the main roads passable all year round. Numerous contracts were let regularly for surfacing and the laying of metal in the worst stretches of the Main North-South Road, while a small regular labour force carried out other maintenance. The heavier rainfall experienced in this area in conjunction with the soft loess surfaces on the steep gradients, particularly between Dunedin and Waikouaiti, gave rise to numerous slips and slumps. On the plains, south of Dunedin, bogging and sometimes flooding were major problems to efficient road communication and costly items to overcome. In Dunedin itself expensive works such as the completion of the Bell Hill cutting, the continued drainage and reclamation of certain sections of the foreshore, especially the Market Reserve, and the further laying of metal throughout the Borough, dealt the final blow to the Town Board. Faced
PLATE XXI  Drivers of passing wagons, between Lawrence and Roxburgh, enjoying refreshments at a bend in the Road. The steep cuttings and narrow, winding nature of the road, plus the heavy traffic are clearly shown.
PLATE XXII  Evidence of the tremendous wear and tear caused by the heavy wagons and coaches on the early roads is still visible in places, as these deep wheel ruts on a portion of the Old Knobby Range Road prove.

PLATE XXIII  Macadamization and better routes improved travel into the 70s. This is a section of the original Roxburgh-Alexandra Road which replaced the Knobby Range Route.
by these costly demands the Board had become a major burden, even embarrassment, to the Provincial Council whose assistance, especially in financial matters, it was always seeking. As a result the Town Board was dissolved by a Provincial Council Ordinance in April 1865, on the grounds of extravagance and incapacity, and the vacancy left was filled by legislation whereby Dunedin became a municipality with a Mayor and City Councillors. Not only had the most lavish expenditure throughout the Province been disproportionate to the advantages gained but also one in advance of the government to sustain.

It has been shown that finance for the construction of roads and bridges originally came from such sources as land sales, private subscription, export duties, pastoral licences and a minimal land tax. Then came the goldrushes and a great increase in the annual income of the Province was brought about. Not only was there a tax on every ounce of gold declared from the diggings but a system of prospectors' licences was also introduced, and when one considers the large number of miners on the fields and the millions of ounces of gold extracted the profits must have been substantial. So too were the improvements needed and
the capital output necessary to fulfill these requirements; however, and the total road appropriations were not always proportionate to the role they were playing in the progress of the Province. As a result some additional means of providing finance for the improvement of overland communications was necessary.

**Tollgates**

A series of toll-gates at key points along the Main Roads provided the answer. A similar system had been used on the punts and bridges by most of the private contributors in the early years of development. Travellers who used these facilities were required to pay a small fee for the privilege. Then as the Provincial Council established its own punts and bridges, especially as a result of the increased road usage consequent on the goldrushes, it too introduced a system of set charges at various toll-bars along the way. In 1864 a Bridge Ordinance was passed which authorised the collection of tolls on and for the maintenance of public bridges within the Province of Otago. Such sites were natural choices for the erection of toll-gates as the great majority of travellers were forced to cross the rivers by the bridges for their own safety. For example

some of the most important toll-gates were situated at the Leith Stream, Waikowaiti, Waitaki, Taieri and Clutha Rivers. It is recorded that in 1868 there were no less than 13 of these in Otago which grossed some £12,000 ($24,000) annually from tolls. This gives a good indication of the density of traffic on the main roads at this time, as the maximum toll charges issued in December 1866 were:

- for every beast drawing a vehicle: 6d. (6c.)
- laden beast: 6d. (6c.)
- droves of horses, mules or asses: 3d. (2c.) a head.
- oxen, cows or beef cattle: 3/4d. (33c.) a score.
- calves, sheep, swine & goats: 10d. (8c.) a score.

Foot passengers were generally free of charge and once the toll was paid it included the return journey. Although this seemed a very fair method, in that those who used the roads and bridges had to contribute to their upkeep, and a reasonably lucrative way of helping to finance road development, it was on the other hand a rather clumsy and even ineffective system. Not only did regular road users find the payments a heavy burden but the enforced stoppages en route also proved a major inconvenience. In addition the money collected was usually given over to the District Road Boards and thus

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(3) A.H. McLintock, 1940, p.25.
(4) Otago Ordinances, 1866, Session 22, No.232, 20 December, 1866, p.1309, Turnpike Ordinance.
was not used in any large amount for the upgrading of Main roads. As a result several of the toll-gates had already disappeared by the end of the Provincial Era in 1876 although some were to be reintroduced at a later date.

Therefore at the end of the most important years of the goldrushes, 1861 - 65, one is left with the thought that Otago's main road system was certainly not as efficient as it could have been. Apart from the fact that the region had experienced a large increase in population and wealth in the first five years of the 1860's and had undergone many changes for the better, this was not always reflected in the state of the roads. While admittedly they were probably no worse than any other Settlement in New Zealand at the time, because of the premier position of Otago, a better standard should have been maintained. Too often, it would seem, road-making had not been considered a work which required much time or skill, and consequently, in many instances, it had been left in the hands of men with little scientific or technical knowledge. This along with the physical, climatic and social influences had meant that very heavy maintenance costs had to be met regularly or the roads simply fell further and further into disrepair and at times became impassable. Finally none of these
developments were at all helped by a big flood in January 1866.

A very heavy unseasonable rainfall in most of the Interior High Country brought the rivers of the Province very quickly to a much higher level than had, as yet, been experienced by the settlers. Whereas in many cases, especially the Main Interior Trunks, advantage had been taken of the natural river-valleys along which to construct the roads, this had made them very vulnerable to any damage by high flooding. Many of these roads were subject not only to undercutting and slumping but also to rilling and complete washouts from adjacent water-courses, with many of the bridges suffering a similar fate. Overall the degree and extent of damage was considerable and only added to the heavy commitments to be met by the Provincial Council.

Thus it was obvious to all concerned that a period of consolidation and order had to emerge from the haste and chaos of the main goldrush years.

Major Upgrading of Main Roads

The peak year of Otago's Golden Era was 1866, when gold to the value of £2,844,517 ($5,689,034) was won, although population numbers had already begun to dwindle,
with many miners leaving for the new West Coast goldfields, and the gold returns were soon to suffer a similar decline. It is common for the whole decade, 1861 – 71, over which the population of Otago increased almost six-fold and gold to the value of £23,000,000 ($46,000,000) was declared, to be discussed as one. Yet, strangely enough, in dealing with the main roads this period is clearly divided into two distinct phases, the developments in the last five years being definitely contrasted to the rapid progress of the first, in that the main roads were by that stage being made in leisure, in a proper manner and always under the inspection and supervision of a competent government Engineer. Otago had been divided into four main districts, North, South, Middle and West, each with its own Chief Engineer and labour force. Longer periods of time were spent in weighing up all the advantages and disadvantages of any proposed construction work before a final decision was made and a contract let. In addition each year since the inception of provincial government had seen an increase in allocations for roading and whereas up until 1861 the total appropriation for this department had been only £148,902 ($297,804), by 1865 the total expenditure on roads and bridges had rocketed to £1,117,800 ($2,235,600). This amount was to more than double in the next ten years - the total expenditure by the Otago Provincial Council at
the time of its abolition being £2,410,000 ($4,820,000). (5)

Thus, while the bridging of the major rivers was carried to a high standard, all the main roads underwent major improvements which brought them more in line with the modern Highway network. But not only were the main roads changed so as to follow more direct and less difficult routes, they were also upgraded by improved scientific methods so as to comply even more closely with modern standards of road construction.

Approximately 100 years after the ideas of Metcalf, Telford and MacAdam had been used to give England the forerunner of the modern Highway such developments were introduced to the road-making of Otago. It had become obvious to the Engineers that the main roads, as they existed, were not suited to the increasing volume and speed of traffic. The wool export alone had increased between 1861 and 1866 from 1,791,751 lbs., to 8,133,249 lbs., while the passenger traffic had undergone a similar increase and most of the trips were spoken of in hours rather than days. As a result of such factors, the roads, with their loose running metal surface or no metal at all and the absence of good drainage, soon

became very cut up and extremely costly to repair. A basic "MacAdamised" construction was the answer and the popular term used to describe this early road type is "water-bound-MacAdam".

This type of road was generally formed by first shaping the earthwork bed to a curve so as to facilitate good drainage, rather than merely clearing the surface and spreading metal on the clay formation as was previously done. A hard core foundation of large quarried rocks, known as pitching, were then placed on edge and fitted closely together. The final work was to spread a finer road metal to an even thickness upon these rocks and then to shape the surface to a camber. This allowed for the drainage of a large percentage of the rainfall to the bordering channels although the structure of the whole road was such that water could pass through and drain away, either over the surface of the earth bed or into the soil itself. A good compacted gravel base was even better as it was not as susceptible to frosts as an earthen or solid rock subsurface on which water could possibly lie. However, this drainage did prevent the bogging of large sections of the main

(6) G.J. Jones, 1958, p.25, states that while reconstructing parts of the Milton-Queenstown Highway he saw miles of this type of construction much of which still provides the foundation of the present road.
road and, strange as it may seem, helped to bind the structure. The infiltrating water worked the irregular faces of the metal into closer contact. The iron-rimmed wheels of the coaches and wagons also helped in this working-in process, although regular work was still required to fill pot-holes and ruts and replace crushed metal worked to the sides of the road. A greater emphasis was placed on the expansion of good all-weather metalled roads and in the two and a half years up to March 1869 a further 10 miles, from 112½ miles in September 1866, were added. At first this seems hardly worthy of mention but, it should be added, many miles of the original metalled roads had been reconstructed and MacAdamised, and by 1869 the Roads Department distinguished between metalled roads (122½ miles) and gravelled roads (32 miles). An accurate account of the work done is still not conveyed to the reader as there is no indication of the many miles already prepared for metalling or the additional work such as the widening, banking and grading on all main roads. It was the sections from Balclutha to Dunedin and north as far as Palmerston, as well as on the inland trunks about the Pig Root and towards Lawrence which underwent most of these improvements. Further into Central and in North Otago the drier climate kept the roads from becoming
too bad. In September 1866 J.T. Thomson, the Chief Engineer of Roads and Works in Otago, had reached the conclusion that the Mountain Track, principally owing to its high elevation and want of metal, had to remain a summer track. He also stated that the northern trunk via the Pig Root and the southern trunk via Lawrence were to be improved simultaneously although he considered that the latter would ultimately become the better road, because it passed through the more valuable and extensive agricultural areas and generally kept to the lower levels. This decision became conclusive as additional improvements were carried out to the main roads.

Although maintenance work was carried out on both the Mountain Track and the Lindis Pass Road its extent and cost was minimal, and all work on the West Taieri - Waipori Road to Lawrence had been halted altogether. Most travellers who still used the West Taieri Route now turned right at Clarks Junction, off the Old Dunstan Road, to follow the Taieri Gorge to the Hyde (Emerald City) district or even as far as Kyeburn. (Fig.6-1) While others did enter by way of Macraes Flat there was no Taieri River Bridge until 1879 and Mardling's Ford was extremely dangerous with the result that the alternative routes retained their popularity. Aided by such legislation as the District Roads Diversion Ordinance of
1870, the Provincial Council was to carry out several major improvements to the main road network.

The deviation on the Shag Valley Road, turning right at the start of Pig Root Hill to follow the Valley of one of the upper branches of the Shag River, and thus avoid the dreaded "Steep Hill" section, was made about this time. On the Milton-Lawrence trunk as well it was a difficult hill section that had provided one of the greatest dangers to travellers. So, while the old track over Mount Stuart was replaced in 1868, close-by the new road across Murray's Flat, which bypassed the very steep Round Hill section, was in full use by 1872. This route, which saved a good hour in travel time, had been used earlier but became very wet and the Round Hill climb was persisted with. Meanwhile deeper into Central the only step that remained to bring the main road network truly into line with the present system was made. In 1871 the Knobby Range route from Roxburgh to Alexandra was replaced by a new road on the west side of the Clutha River via Coal Creek, Bald Hill Flat (Fruitlands) and Butcher's Gully. (Fig. 6-1) Already in 1867 Alexandra had been declared a Borough and the coaches passed through the town rather than running directly to Clyde. This service was continued after the new road was opened
with a punt crossing the Clutha immediately below the present Alexandra Bridge site. However, an alternative road that bypassed Alexandra and proceeded directly to Clyde could be followed. From Butcher's Gully this road went through the Eight-Mile (Conroy's Gully) and Earnscleugh on the west bank of the river, and many travellers preferred this more direct route especially as the east bank road between Alexandra and Clyde was often covered in deep drifts of sand. (Fig.6-1) The Cromwell Gorge Road was now one of the best in the Province while in the Kawarau Gorge the obstacle which had for so long hindered good road communication, the Nevis Bluff, had been removed. Some 25,000 cubic yards of schist rock had been blasted away and by late 1867 this road was open for all descriptions of vehicles and was "particularly easy to travel over . . . [being] nothing like it in the Province . . ." (7)

In the East Coast districts the Main North Road was improved by its deviation through Trotters Creek Gorge on the difficult Horse Range section. (Fig.6-1) The Main South Road was widened and remetalled so as to cope with the increased traffic following the declaration, in May 1866, that Port Molyneux was no longer a Port of

(7) Otago Witness, 5 October, 1867, p.3.
Entry, and the main street of Dunedin was both well formed and paved. All the main roads throughout the Province therefore, had undergone major improvements and in 1872 MacKay's Otago Almanac showed that since 1864 reductions in distance of 5, 13 and 14 miles between Dunedin and Balclutha, Alexandra and Queenstown respectively, had been made. These improvements along with the continued bridging of the rivers meant a great saving in travel time, and instead of taking two days from Dunedin to Port Chalmers or several weeks to travel to Central these distances in time were reduced to minutes and hours. (Fig.6-2) By 1875 one could not only visit the main centres of population in the Province, by coach, at greater speed but also in reasonable comfort and security.

There is scarcely a district which is not intersected and opened up by local roads, and the main roads formed and kept by the Government render it safe and pleasant to travel in all directions. (10)

Yet despite this obvious progress all was still not as well as it seemed. Unemployment was widespread, wages

(8) The river service was maintained, however, and the Clutha River Bridge, opened October 1868, had a draw-bridge.

(9) 1869 marked the introduction to Dunedin Streets of the bicycle, although this did not stimulate the demand for greatly improved roads as it had done in England.

Fig. 6-2  The increase in mileage able to be travelled in less than 24 hours, 1853 - 73
low and Otago was not developing its full potential. Greater employment opportunity throughout the whole country was needed and, after becoming Treasurer of the Fox Ministry in 1869, it was Julius Vogel who passed the Immigration and Public Works Act of 1870 in an attempt to remedy this situation. He was the first New Zealand Minister to speak in terms of millions of pounds without apology, his scheme being to borrow large sums of money from England, to attract emigrants and to expand greatly the country's Public Works. This, it was hoped, would open up new country, provide employment and continue the progress begun by the goldrushes. As Vogel himself said -

> Every mile of railway constructed, road made, bridge built . . . opens up new country, gives greater inducement for settlement, . . . removes difficulties and expense in the transport of produce. (11)

In Otago the main roads had been developed to a high standard and it was the Railway which received the most benefit under the Vogel Scheme.

**The Railway Provides Competition**

The development of a Railway system in Otago had been discussed previously, in particular by Macandrew when he came to power in 1860, but there had been a great deal

of criticism about its introduction. The major problem was the cost of such an undertaking and many felt that the money would be much better spent on further improvements to the road and water communications. The Mount Ida Chronicle, in its leading article, 30 April 1869, stated that the settlers of the district would oppose any setting up of a Railway system in the Province until the roads were further improved. Others opposed the fact that the level-crossings would be very dangerous to the ever increasing number of road-users. By the 1870's however, the road had to handle a very large volume of traffic and the development of the water-ways was not practicable. The introduction of a rail network was inevitable and in fact since about 1865 any new roads had been built without expensive cuttings or metalling and it was the existing main roads which had been concentrated upon.

It was not until 31 December 1872 that Otago's first Railway from Dunedin to Port Chalmers was officially opened. Nevertheless progress was swift and after only three years lines had been extended in sections from Dunedin north to the Waitaki River, and continuously south to the Clutha River with a branch line near Milton.

(12) J.C. Cowan, Down the Years in the Maniototo, 1948, p.65.
formed well towards Lawrence. These three busy years of progress had seen a great deal of heavy traffic on the roads with wagons carting sleepers, rails and bridge components to the railroad construction sites. But once the new service was established, because it closely followed the main roads, a general decline in road traffic was experienced. The Bruce Herald in September 1875 reported that after the opening of the Railway the coaches to and from Milton "did not load very well". Pointing out the damage to public roads created by the "road operators", the Railway continued to prove its great efficiency as a bulk carrier and to win more and more trade. This not only had a detrimental effect on the wagon and coach services but also on such auxiliary industries as the horse-breeder, wagon builder and farrier, many of whom were forced out of business. Thus more people found themselves out of work but despite this, because of the inducements offered by the Railway, the Roads Department found it difficult to acquire sufficient labour. The "iron-horse" soon proved its capabilities and was able to claim the larger portion of the transport trade. The supremacy of the Coaches had been supplanted and a very romantic Era in Otago's history had come to an end.

(13) The Bruce Herald, 3 September, 1875, p.3, Dunho.
The first train had run on the 1st of the Month.
Nevertheless the main roads remained and in fact the introduction of the Railway had some beneficial effects upon them. In the first place the rail reduced the tremendous traffic load that the main roads had to carry. The high maintenance costs of the sixties were therefore reduced and the available energy and money was better spent on additional upgrading work such as pitching, cutting, banking and widening. The roads to benefit the most were those that fed the newly established railheads and which had to support the heavy loads of stock and produce as they were carried to and from the stations. The many tons of coal required were also an extra burden on some of these roads. All the main roads underwent continual improvements however, and Otago's Railways found themselves built alongside the best roads in New Zealand which were also described, in parts, as being as good as any in England. Bridging had been carried to a high standard with several imported for the Railway being found unsuitable and consequently used on the roads, while many of the original wooden bridges were being repaired or replaced by more sturdy stone structures. Thus the roads continued to command a fair percentage of the overland trade especially when it was realised that the line could become obstructed by a comparatively minor slip which only blocked one side
of the track. Some of the heavier cargos, such as wool, were still carried long distances by wagon so as to avoid double handling and obviate the necessity of a long journey, often of comparable distance, to the nearest railhead. Passengers travelling short distances generally preferred to travel by coach and one improvement that was forced on the coach services by the introduction of the Railway was the necessity for them to keep more regular departure and arrival times. Lovell-Smith recalls that bugles were supplied to the coach drivers, not only to warn other road users of their approach but also to prepare waiting passengers, so that little time was wasted at stops. It is also apparent that the Railway saw some Coaching firms reduce their fares. Admittedly the Railway had stolen much of the glamour from the main roads, but it was this ability of the road operators to adjust that enabled them to compete with the Railway and eventually regain much of their lost trade.

After the Golden Decade of the 1860's the seventies had opened with a wealth of entrepreneurial talent present in Otago. Manufactories and industrial works exhibited unmistakeable progress with breweries, tanneries, woollen and flour mills all showing greater productivity. But

(14) E.M. Lovell-Smith, 1931, p.94.
such would not have been possible had not the primary
production of the Province improved phenomenally.
Prices were good and farming had emerged from its initial
pioneering phases with the importance of rotation methods,
good fencing, irrigation and the application of
fertiliser, plus other new scientific practices, all
being recognised as important for increased production.
From 1866 to 1871 the wool export alone had almost doubled
to 15,915,504 lbs., Otago having 38% of New Zealand's
sheep flock, while the acreage under both cereals and
sown grasses had also increased markedly. Dunedin was
the capital city in all but name and the main distributing
centre for a very prosperous hinterland, and the importance
of overland communications in this rapid development
should not be under-rated. Both road and rail had
played a major role in the prosperity of Otago, a part
which was to expand with the region. However, every
aspect of primary production, the whole basis of the
economy, is governed by the elements. It was soon
recognised that this did not blend with the rigid timetable
required by the Railway. The situation often arose
where produce could not be delivered to rail at an exact
time and as a result the more frequent and flexible
service, from door to door, provided by the road-operator
gained favour. The importance of the main roads to the
future of the young Colony really became evident with the introduction of refrigeration to New Zealand shipping in 1882. Dairy products had to be taken to the factories each day and in season large numbers of sheep had to be transported to the abattoirs. It was the roads that were to provide this service, and Otago was already well equipped.

For a country like New Zealand, which is highly dependent for its economic strength upon the activity of its primary industries, the importance of adequate roads is even greater than in most other countries. The nature of our great primary industries is such as to require, for their successful functioning, an extensive and elaborate network of roads extending to all productive areas. (15)

The final change was made in the field of administration. Despite a great deal of opposition from Otago, where he had received his political training, Vogel, like the true statesman he was, had discarded any Provincial loyalties and placed himself at the service of the Colony. National development was his policy and the first step was the bringing into operation of the 1875 Abolition of the Provinces Act on 1 November 1876. A system of Counties was introduced which were to take

over the administration of specific areas and to gradually replace the 46 roads districts in Otago at the time. In addition a Counties Act, which defined the various classes of road and decided that the Counties, assisted by Government grants, were responsible for the maintenance of most, and a Public Works Act, 1876, were effective moves for much road work. Whereas, during the Provincial period most concern had been given to the regional main road network, by the mid-seventies more money was being spent on inter-provincial ties. As regional specialisation, in both primary and secondary industry, and the need for greater local trading became established, a more direct and better formed road into Canterbury was made, with the advent of rail hastening developments for a Waitaki River Bridge, while links with Southland were continually being improved. Therefore, although there have been many reasons put forward to account for the Abolition of the Provinces, under them all lies the fact that the high standard of overland communications had turned several isolated settlements into one Nation. "What though the period was to mark the end of the history of Otago as a separate political entity, the future still promised much"; and the main roads

(16) It was not until the Main Highways Act of 1922 that the Main Roads became primarily a matter of National concern.

would forever play an increasing part in the continued progress and prosperity of the region. It was not a sunset but a dawning.

CONCLUSION

Thus ends the story of Otago's unique main road system. Not only was the network formed in less than 30 years to a standard that at the time compared favourably with most Western countries, but it also served the region from Dunedin by a concentric pattern rather than the more common radial type. Such features remain although gone are the bullocks and drays, the horses and coaches never to return but never to be forgotten. Under the most difficult of conditions it is these things along with their intrepid drivers who, in close harmony with the economic climate of the times, laid the foundations of Otago's modern highway system. Todays travellers rarely pause to consider the pioneers who planned, surveyed and finally built the roads through bush, bog and trackless tussock. But surely the fact that these routes are still in use is a tribute to the skill of the early engineers and moreover, as improvements continue to be made to Otago's main highways the writer hopes that they will make motorists aware of the region's increasingly fine road system and in particular create monuments to past endeavours.
One does not require a great deal of imagination to stand on such a section of old road and picture the steaming horse-team thundering around the bend, the laden Coach swaying along behind. "Never to return but never to be forgotten".
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